DOCUMENT RESUME

ED 328 114 HE 024 137

AUTHOR Kirshstein, Rita J.; And Others
TITLE The Escalating Costs of Higher Education.
INSTITUTION Pelavin Associates, Inc., Washington, DC.
SPONS AGENCY Department of Education, Washington, DC. Office of Planning, Budget, and Evaluation.
PUB DATE Nov 90
CONTRACT 300-85-0184
NOTE 161p.; For a related document, see HE 024 138.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS *Economic Factors; Higher Education; Inflation (Economics); Paying for College; Prediction; *Public Policy; *Student Costs; Student Financial Aid; *Trend Analysis; *Tuition

ABSTRACT

This congressionally mandated study of the escalating cost of higher education focuses on: (1) identifying the cost of obtaining a higher education and determining how that cost has changed from 1976-77 to 1987-88; (2) determining specific causes of such cost changes; (3) forecasting the future cost of obtaining a higher education; (4) evaluating the impact of such cost changes on institutions of higher education, their students, and lower and middle income families; (5) making recommendations on how cost changes can be minimized in the future; and (6) outlining policy options to minimize future cost changes. The report, which used multiple data sources in its analyses, found that college tuitions and other costs of attendance have increased as a share of median family income throughout the 1980s, particularly in the private sector. Costs rose to cover rising expenditures, to make up for shortfalls in other revenue sources, and in response to growing demand for college education. Assumptions about such variables as enrollments, financial aid availability, and economic conditions are used to predict the future course of tuitions. Strategies such as containing costs and increasing revenues from sources other than tuition are explored as ways to reduce future cost increases. Includes approximately 100 references. (JDD)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED328114

# THE ESCALATING COSTS OF HIGHER EDUCATION

**Prepared Under Contract by:**

**Peiavin Associates, Inc.**
**Washington, D.C. 20036**

**Contract No. LC 89079001**

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

HE 024 137

U.S. DEPARTMENT OF EDUCATION • OFFICE OF PLANNING, BUDGET & EVALUATION

# THE ESCALATING COSTS OF HIGHER EDUCATION

**Rita J. Kirshstein**
**Daniel R. Sherman**
**Valentina K. Tikoff**
**Charles Masten**
**James Fairweather**

**November, 1990**

Prepared For:

Office of Planning, Budget and Evaluation
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

**Pelavin Associates**
2030 M Street, N.W.
Suite 800
Washington, D.C. 20036

# EXECUTIVE SUMMARY

## THE ESCALATING COSTS OF HIGHER EDUCATION

Increasing public concern over rising tuitions throughout the first half of the 1980s prompted Congress to mandate a study of the escalating cost of higher education. In response to Congress' request, the Department of Education contracted with Pelavin Associates to conduct a study focusing on the six elements of the mandate. The study was required to:

- Identify the cost of obtaining a higher education and determine how that cost has changed in recent years;
- Determine specific causes of such changes in cost and the extent to which those causes have contributed to such changes;
- Forecast the future cost of obtaining a higher education with consideration given to prospective demographic changes in student enrollment;
- Evaluate the impact of such changes in cost on institutions of higher education, their students, and lower and middle income families;
- Make recommendations on how such changes in cost can be minimized in the future; and
- Outline State and Federal policy options which may help to minimize such changes in cost in the future (P.L. 99-498, section 11303).

### What Colleges Charge

Tuition and fees vary considerably by sector. They are much higher in the private sector than in the public sector, where state and local governments provide a significant degree of financial support. Average tuition and fees for fall 1990, as reported by the College Board, are:

- At two-year public colleges, $884.
- At four-year public colleges, $1,809.
- At two-year private colleges, $5,003.
- At four-year private colleges, $9,391.

In both public and private institutions, tuition has increased more than inflation since 1982. In contrast, real tuition had fallen in each of the four academic years prior to 1982.

Even within the public and private sectors there is a great deal of variation in tuition levels. Although some four-year private institutions have annual tuitions greater than $10,000, many others charge significantly lower tuitions. Within the public sector, most schools charge less than $3,000 a year in tuition, due to operating subsidies provided to those schools by state and local governments.

## Public Perception of College Costs

The public thinks that college is more expensive than it really is. Many prospective students are also largely misinformed about the availability of financial aid resources that help students and their families pay for college. Several recent reports reveal this lack of information about college costs and financial aid.

- A recent Gallup survey has shown that 13- to 21-year-olds greatly overestimated the average cost of tuition, fees, books and supplies at four-year colleges. They estimated these costs at public four-year institutions to be more than three times the actual figure. The same group estimated that costs at private four-year colleges were one-third higher than they actually were.

- According to a recent General Accounting Office report, only 12 percent of high school sophomores in 1980 thought that the Pell Grant program was available to pay for further study beyond high school. Only eight percent thought that Stafford Loans were available. In fact, such grants and loans are available to all who qualify.

The popular misperceptions about college costs may be shaped by publicity focusing on tuitions of well known private colleges and universities. Many of these institutions have tuitions that are twice those of the average four-year private school; and tuitions at expensive schools have tended to grow more quickly than those of less expensive schools. However, these high tuitions affect a very small fraction of all students. All private colleges together enroll only 20 percent of all undergraduates, and the most expensive of these colleges, those with tuitions exceeding $10,000, enroll even fewer students (three percent of all undergraduates in 1987).

## Rising College Tuitions and The Affordability of Higher Education

To determine whether or not college is affordable, tuition costs must be examined in light of family income and financial aid availability. The study found the following:

- College tuitions and other costs of attendance have increased as a share of median family income throughout the 1980s. This trend is particularly pronounced in the private sector. Between 1976-77 and 1987-88, the average tuition of a private, four-year institution rose from 16.5 percent to 22.1 percent of median family income. During the same time period, the average tuition of a four-year public school rose from 4.1 percent to 4.8 percent of median family income.

- Financial aid reduces the costs of attending college for nearly half of all undergraduate students. In 1987-88, students received nearly 25 billion dollars in

financial aid. The Federal government provided about 75 percent of this aid, though the portions of total aid contributed by state and institutional sources increased during the 1980s.

- Between 1980-81 and 1987-88, financial aid grew faster than inflation but still did not keep pace with increases in tuition. This suggests that, on average, students were paying more to attend college.

- Since the mid-1970s, there has been a shift away from financial aid directed at specific populations (such as veterans) and toward aid that is generally available to all eligible students. Between 1976-77 and 1987-88, general aid sponsored by the Federal government increased by 112 percent in real terms, while special aid sponsored by the Federal government declined by 84 percent in real terms.

## Why College Tuitions Have Increased

College tuitions increased in the 1980s for many reasons. In part, costs rose as a result of budgetary pressures, either to cover rising expenditures (such as faculty compensation) or to make up for shortfalls in other revenue sources (such as government appropriations). Tuitions also rose in response to growing demand for a college education, manifested in a willingness to pay higher tuitions. This strong demand may have encouraged some institutions to raise tuitions in order to finance additional expenditures.

Because there is evidence to support both of these explanations, this study developed an econometric model to examine the extent to which budgetary pressures resulted in tuition increases and the extent to which tuition was increased to raise revenue for funding new expenditures. The results of this model suggest that in the early 1980s, tuition increased not only in response to rising expenditures but also as a means to finance higher expenditures. According to the same econometric model, in the late 1970s tuitions rose in response to budgetary pressures but not as a means to finance additional expenditures.

Other findings of the report include the following:

- The majority of college expenditures cover academic and administrative needs. Both increased substantially between 1975 and 1985; however, administrative costs grew more quickly and increased as a portion of total costs in both public and private sector institutions.

- Faculty salaries comprise the largest share of academic costs. Between 1980 and 1989, the average salary of a full professor rose 19 percent more than inflation. Similar increases occurred at other faculty ranks. Yet, due to steady declines in the real value of faculty salaries in the 1970s, these increases did not restore faculty salaries to their full purchasing power of the early 1970s.

- In both the public and private sectors, tuition and fees provide only a portion of the costs of providing higher education. Other sources include grants and contracts, voluntary contributions, and, in the public sector, state and local

appropriations. However, tuition and fee revenues have increased as a proportion of overall revenues in both the public and private sectors. This is an indication that students and their families are paying a larger proportion of the costs of providing higher education.

- College expenditures have risen more quickly than state appropriations, leading to increased reliance on tuition revenue at public colleges and universities. For example, average tuition at public universities rose 37 percent between 1975 and 1985, while appropriations increased only 17 percent. Figures were similar for other public four-year colleges. Only in public two-year institutions did appropriations increase slightly more than tuitions over the same period.

- College and university finance officials believe that many different factors contribute to tuition increases. These factors include: increasing academic expenditures (mentioned by 44 percent of all respondents); increasing operating expenditures (39 percent); state tuition policy requirements (37 percent); and a desire to improve the quality of the institution (35 percent).

- Colleges are very satisfied with their ability to control expenditures. Four out of five rated their ability to control expenditures as either excellent or good; only half of all colleges rated their ability to control revenues similarly.

- Colleges have spent money on new kinds of expenditures. For example, the use of computers in instruction and administration has grown rapidly. More than half of all colleges report that computer-related expenditures grew faster than inflation during the 1980s.

- Costs per student may have increased in the 1980s due to enrollment plateaus and declines. This contrasts to a period of stable per-student costs in the 1970s, when enrollments rose dramatically and increasing aggregate costs could be spread over more students each year.

- Throughout the 1980s, colleges greatly increased their expenditures on student aid. The College Board estimates that between 1980-81 and 1987-88, total institutional student aid grew from $2.8 billion to $4.7 billion (in constant 1988 dollars), an increase of 67 percent.

## The Future of College Tuitions

Because many factors influence college tuitions, it is extremely difficult to predict the future course of tuitions with precision. Some of the factors shaping the affordability of college in the future are enrollments, financial aid availability, and economic conditions. Assumptions about these variables shape projections of future costs.

- The number of students who enroll in higher education institutions is projected to decline between 1990 and 1995; the effect of declining enrollments may put

upward pressure on tuition if schools spread the fixed costs of providing education over decreasing numbers of students.

- If the economy becomes weak, states may reduce their higher education appropriations, which may compel public institutions to increase tuition to generate revenue.

- If the trend in college tuitions from 1980 through 1989 continues into the future, then annual tuition in 2000 can be projected at $16,889 at a four-year private school and $2,772 at a four-year public school. However, recent trends may not continue into the future, and family income is also likely to change, which will affect the ability of families to pay for higher education.

- If recent trends in college tuition, financial aid, and family income from 1978 through 1985 continue into the future, then the costs of attending a four-year private college may increase moderately relative to family income while the costs of attending public schools will increase only slightly.

## Reducing Future Cost Increases

A number of different strategies are available to higher education institutions, states, and the Federal government to ensure that college will be accessible in the future. These strategies include containing costs and increasing revenues from sources other than tuition. Many of these strategies have been tested or implemented in different state and institutional settings.

Most approaches to reducing costs come with tradeoffs attached. Few reduce costs absolutely. Costs are generally transferred from one party to another, shifted from the present to the future, or reduced at the expense of some other aspect of American higher education, such as choice or quality. Cost reduction is important to the continued vitality of higher education, yet proposals to contain costs must be considered in light of their overall impact.

## ACKNOWLEDGMENTS

This report would not have been possible without the assistance and cooperation of the U.S. Department of Education and an outside advisory panel. Throughout the project, Gregory Henschel, Daniel Goldenberg, Maureen McLaughlin, Alan Ginsburg, and Stephen Robertson of the Department of Education worked closely with Pelavin Associates to produce this report. Their insights, guidance, and support are greatly appreciated.

The study also benefitted greatly from the active participation of an outside advisory panel. Their comments and suggestions, as well as their general support to the project, proved invaluable throughout the course of the project. The panel consisted of: Dr. W. Lee Hansen, Professor of Economics, University of Wisconsin (Madison); Dr. Frederick Jacobs, Dean of the Faculties, The American University; Dr. Stanley Koplik, Executive Director, Kansas Board of Regents; and Dr. Suzanne Woolsey, Executive Director, Commission on Behavioral and Social Sciences and Education, National Research Council. Dr. Michael McPherson, Professor of Economics, Williams College reviewed the report and provided a number of useful suggestions and insights.

In addition, Jon Cohen, Marianna Lancaster, and Shana Pribesh of Pelavin Associates worked closely with the authors and made substantial contributions to this project. Finally, the authors commend the efforts, skills, and patience of Diedra White, the project secretary, who was responsible for the overall production of this report.

## TABLE OF CONTENTS


Page

EXECUTIVE SUMMARY ..... i

ACKNOWLEDGMENTS ..... vii

LIST OF TABLES ..... xi

LIST OF FIGURES ..... xiii

CHAPTER I: INTRODUCTION ..... 1
- Background ..... 1
- The Report ..... 5

CHAPTER II: THE COST OF OBTAINING A HIGHER EDUCATION ..... 11
- Background ..... 11
- Tuition and Room and Board Trends ..... 12
- College Costs and Inflation ..... 18
- College Cost Increases and Family Income ..... 21
- Tuitions at "Expensive" Schools ..... 24
- College Costs and Financial Aid ..... 25
- Conclusion ..... 31

CHAPTER III: THE IMPACT OF RISING COLLEGE COSTS ON STUDENTS AND THEIR FAMILIES ..... 33
- Background ..... 33
- College Costs and Enrollments ..... 35
- Trends in the Affordability of Higher Education ..... 37
- The Current Affordability of Higher Education ..... 46
- Conclusion ..... 51

CHAPTER IV: EXPLANATIONS FOR RISING TUITIONS AND COSTS ..... 53
- Background ..... 53
- Budget-Oriented Explanations for Tuition Increases ..... 55
- Demand-Oriented Theories of Tuition Growth ..... 77
- Conclusion ..... 84

CHAPTER V: FORECASTING THE FUTURE COSTS OF HIGHER EDUCATION ..... 85
- Background ..... 85
- Enrollment Trends ..... 88
- Enrollment Changes and College Costs ..... 91
- Higher Education Costs and Future Tuition ..... 94
- The Future Affordability of College ..... 99
- Conclusion ..... 100

## TABLE OF CONTENTS (Continued)


Page

CHAPTER VI: MINIMIZING COSTS: INSTITUTIONAL STATE, AND FEDERAL OPTIONS ..... 103
Background ..... 103
Effects of Tuition Growth on Academic Institutions and Policy Options for the Future ..... 105
Limitations on Institutional Spending ..... 106
Increasing Non-tuition-related Revenues ..... 113
Tuition Strategies ..... 117
Policy Options for State Governments ..... 119
Consistent Funding ..... 120
Reducing Redundancy ..... 121
Tuition Prepayment ..... 122
State Savings Plans ..... 124
Tying Tuition Increases to Inflation Indices ..... 124
Proposals to Increase Tuition and Need-Based Aid ..... 125
State Comprehensive Support Programs ..... 127
Price Controls and Purchase Reviews ..... 128
Policy Options for the Federal Government ..... 128
Changes in Federal Financial Aid Programs ..... 128
Federal Savings Plans ..... 130
Price Controls ..... 131
Purchase Review ..... 132
Institutional Restrictions on Federal Financial Aid ..... 133
Conclusion ..... 134

CHAPTER VII: CONCLUSIONS ..... 135

REFERENCES ..... 141

## LIST OF TABLES


| Table Number | | Page |
|---|---|---|
| II-1 | Undergraduate Tuitions: 1976-77 to 1987-88 in Current (Unadjusted) Dollars | 15 |
| II-2 | Undergraduate Resident Attendance Costs 1976-77 to 1987-88, Current (Unadjusted) Dollars | 17 |
| II-3 | Undergraduate Tuitions & Resident Attendance Costs (Tuition + Room + Board) 1976-77 to 1987-88 Constant (1987-88) Dollars | 20 |
| II-4 | Undergraduate Tuitions & Resident Attendance Costs (Tuition + Room + Board) as a Percentage of Median Family Income 1976-77 to 1987-88 Current (Unadjusted) Dollars | 23 |
| II-5 | Student Financial Aid 1976-77 to 1987-88 in Constant (1987-88) Dollars | 26 |
| III-1 | Trends in Student Net Price Costs (1978 Dollars) | 42 |
| III-2 | Percentage of Full-Time Dependent Undergraduates Receiving Financial Aid by Income Quartile: 1986-87 | 47 |
| III-3 | Net Price Differences for Full-Time Dependent Undergraduates by Institution Type and Income Quartile: 1986-87 | 49 |
| IV-1 | Full-time Faculty Salary Growth (in Constant 1989-90 Dollars) | 64 |
| IV-2 | Staff Changes at Colleges and Universities, 1975-1985 | 68 |
| IV-3 | Percentage Changes in Average Real Salaries of Higher Education Administrators and Faculty Members, and in Average Real Salaries or Earnings of Other Comparison Groups, 1971-72 to 1984-85 | 70 |
| IV-4 | Changes in Tuition and Government Appropriations at Public Higher Education Institutions | 74 |
| IV-5 | Trends in Enrollment Composition: 1970-71 to 1985-86 | 75 |

## LIST OF TABLES (Continued)


| Table Number | | Page |
|---|---|---|
| IV-6 | Estimated Relationship between Per-student E&G Expenditures and Tuition Revenue, 1975 to 1985 | 82 |
| V-1 | Projections of Undergraduate Tuitions (1989-90 Dollars) Based on 1980-89 Trends | 87 |
| V-2 | Projection of Higher Education Enrollments (Enrollments in Thousands) | 90 |
| V-3 | Projection of Per-Student Higher Education Expenditures (1989-90 Dollars) | 97 |
| V-4 | Projections of Undergraduate Tuitions (1989-90 Dollars) Based on Projected Per-Student Expenditure Growth | 98 |

## LIST OF FIGURES


| Figure Number | | Page |
|---|---|---|
| II-1 | Enrollment Shares of Students by 1989-90 Tuition | 14 |
| II-2 | Trends in Undergraduate Tuition and Fees Academic Years 1976-77 through 1987-88 | 19 |
| II-3 | Student Financial Aid by Type | 28 |
| II-4 | Student Aid by Source | 30 |
| III-1A | Net Cost of Attendance for Three Income Groups, in 1978 Dollars Public 4-Year Institutions | 39 |
| III-1B | Net Cost of Attendance for Three Income Groups, in 1978 Dollars Private 4-Year Institutions | 40 |
| IV-1 | E & G Expenditures per FTE Student Public Institutions | 57 |
| IV-2 | E & G Expenditures per FTE Student Private Institutions | 58 |
| IV-3 | Changes in CPI and Subcomponents of Higher Education Price Index | 61 |
| IV-4 | Enrollment and Expenditure Growth | 78 |
| V-1 | Real Tuition Levels, 1980-2000 Projections for 1990-2000 based on 1980-89 Trends | 82 |

# CHAPTER I

# INTRODUCTION

*The Secretary [of Education] shall conduct a study on the escalating cost of higher education.*

## Background

Prompted by large annual increases in tuitions throughout the first half of the 1980s, the United States Congress requested the Secretary of Education to conduct a study of higher education costs. This study is required to:

- Identify the cost of obtaining a higher education and determine how that cost has changed in recent years;
- Determine specific causes of such changes in cost and the extent to which those causes have contributed to such changes;
- Forecast the future cost of obtaining a higher education with consideration given to prospective demographic changes in student enrollment;
- Evaluate the impact of such changes in cost on institutions of higher education, their students, and lower and middle income families;
- Make recommendations on how such changes in cost can be minimized in the future; and
- Outline State and Federal policy options which may help to minimize such changes in cost in the future (P.L. 99-498, section 11303).

The Congressional mandate is one of many expressions of growing concern over rising college costs. On September 15, 1987, the Committee on Education and Labor of the U.S. House of Representatives held hearings on higher education costs. At these hearings, college presidents, deans, higher education association executives, education consultants, and many others testified regarding rising tuitions and their impact on students, the American public, and colleges and universities themselves. While those testifying and the constituencies they represent varied considerably, their basic premise did not: rising tuitions were making the possibility of a college

education a concern for many students and their families. Higher education had become a consumer issue.

Concern over rising college costs is evidenced more frequently in another forum. Throughout the 1980s, the announcement of new tuition rates each year resulted in a flurry of articles and editorials in newspapers all around the country. In most cases, newly announced tuitions of state and local colleges were compared both to their tuitions in previous years and to tuition averages for public and private higher education institutions nationwide. Changes in tuitions were also compared to standard inflation measures, such as the Consumer Price Index (CPI).

These articles frequently highlighted tuitions at the nation's most expensive institutions. When the College Board released tuition charges for the 1989-90 academic year, for example, The Washington Post published an extensive article on rising college attendance costs, noting that it could cost more than $85,000 to obtain a bachelor's degree at some of the more expensive colleges in the country (Vobejda, 1989). A Wall Street Journal article predicted a cost of $300,000 for a four-year degree at an Ivy League school by the year 2007 (Putka, 1989).

Between the 1989-90 and 1990-91 academic years, the average college tuition increased five percent at two-year public colleges, seven percent at four-year public institutions, and eight percent at both two- and four-year private schools; the CPI increased five percent. In both two- and four-year institutions, however, the average tuition paid by students attending private schools increased more than the average tuition paid by students enrolling in public colleges and universities. The fact that tuition increased faster among private institutions than among public institutions in the late 1980s created an ever-widening gap between tuitions in public and private colleges and universities.

Even within the public and private sectors, tremendous variation exists in the amounts schools charge students. In the public sector, there are large differences across states and between two- and four-year institutions. In 1990-91, for example, residents of North Carolina and Texas could attend public universities charging less than $1,000 in annual tuition. In contrast, in-state tuition for the University of Vermont was nearly $4,000 (The College Board, 1990a).

Private school tuitions vary even more. Despite a popular belief that all private institutions charge high tuitions, a National Association of Independent Colleges and Universities (NAICU) study reports that there were three times as many independent schools that charged less than $5,000 in tuition and fees than there were independent schools charging more than $10,000 in 1988-89 (NAICU, 1989). Cooper Union in New York City, for example, charged $300 for tuition in 1990-91 while Bennington College in Vermont charged $17,790 the same year (The College Board, 1990a). Despite the broad range of tuition charges at private institutions, the schools charging under $5,000 enrolled only 16 percent of all students in private four-year institutions in 1990-91, while colleges and universities charging over $10,000 in tuition and fees enrolled almost one third of all students in the private sector in that same year (The College Board, 1990b).

Perhaps due to media attention to tuitions at expensive institutions, the American public perceives the costs of attending college to be even higher than they actually are. A 1988 survey taken by the Gallup Organization for the Council for Advancement and Support of Education (CASE) found that high school juniors and seniors overestimated the cost of tuition, fees, and books at a public four-year college or university by almost $5,000 a year. While respondents' estimates of these costs for private four-year colleges were closer to the actual costs, respondents still overestimated the price by approximately $3,000 (CASE, 1988).

Relatively few of the many articles decrying tuition increases point out that approximately 80 percent of all undergraduates in this country attend public institutions. Moreover, within the private sector, the exceptionally high tuitions at the most expensive private colleges and universities affect a very small portion of students. In 1987-88, for example, the 100 most expensive schools enrolled only three percent of all undergraduates.

There are two veins of American public opinion concerning higher education. Americans are undoubtedly worried about rising tuitions. At the same time, most Americans still firmly believe that a college education is a valuable investment. In a recent Gallup survey, almost three fourths of those polled believed that a college education was worth more than or equal to its actual cost (CASE, 1989).

While the concern over rising tuitions and the belief that education is worth what it costs may seem contradictory, both sentiments reflect the high regard that Americans have for higher education. The American public has always placed great faith in its educational system and the ability of education to further a wide range of individual and societal goals. Higher education in the United States long ago ceased to be an exclusive privilege of the wealthy; in fact, a higher percentage of the American population attends college than in any other country in the world (U.S. Department of Education, 1989). The public concern over escalating tuitions can be interpreted as a further expression of the esteem that Americans have for higher education and their concern that higher education remain within reach of all who want to attend and are academically capable. The Congressional mandate to conduct a study on higher education costs reflects a continuing commitment to make higher education accessible to all students.

## The Report

Although the Congressional mandate was fueled by concerns over rising tuitions and other expenses which students and their families incur, the costs of higher education are not borne exclusively by students and their families. In fact, tuition covers only a portion of the total costs of providing a higher education. Federal, state, and local governments contribute much of the rest along with higher education institutions and private donors. Therefore, college costs cannot be understood without considering both the total costs of providing a college education and how these costs are divided among students, families, institutions, and Federal and State governments.

The cost of a college education can be reduced across all levels only if the total cost of providing that education decreases. More often, reductions in costs at one level result in increases in costs at another level. If the Federal government, for example, reduces its financial aid appropriation, the amount students and their parents pay to attend college could potentially increase. As another example, if state appropriations decline, public colleges and universities may respond by raising tuitions to cover this revenue shortfall.

The diversity within higher education must also be considered. As previously noted, higher education costs vary widely across states, sectors, and types of institutions. These distinctions among institutions help to explain differences in expenditure and revenue patterns, as well as changes in cost over time.

This report responds to the six elements of the Congressional mandate to examine higher education costs. As a final report to Congress, it represents a consolidation and synthesis of many other reports funded specifically to address the mandate. These reports include:

- Trends in Institutional Costs (Pelavin Associates);
- The Finances of Higher Education Institutions (WESTAT);
- Tough Choices: A Guide to Administrative Cost Management in Colleges and Universities (U.S. Department of Education);

- Holding Down Costs at Academic Research Libraries: A Consortial Approach (The Washington Research Library Consortium);
- Seven Expert Papers:
  - "Faculty Utilization" (Rita Kirshstein and James Fairweather);
  - "The Market for Higher Education: An Economic Analysis" (Ralph Bradburd and Duncan Mann);
  - "The Ability to Afford Higher Education: Past, Present, and Future" (Ralph Bradburd, Duncan Mann, Michael McPherson, and Morton Schapiro);
  - "Understanding the 'Quality' Issue in U.S. Higher Education" (Ralph Bradburd, Duncan Mann, Michael McPherson, and Morton Schapiro);
  - "Public Sector Institutions" (Daniel Sherman, Valentina Tikoff, and Charles Masten);
  - "Expensive Institutions" (Daniel Sherman and Jon Cohen); and
  - "Econometric Modelling of Tuitions and Expenditures in Higher Education" (Charles Masten).

This report also incorporates the work and opinions of many different higher education analysts, college officials, and journalists who have been addressing issues related to higher education costs. Much has been written in the past ten years attempting to explore and explain changes in what colleges charge students. These pieces exemplify the concerns of a variety of groups affected by higher education issues.

Due to the wide range of issues considered in this report, no single data source covers all the topics requested by the mandate, no single explanation emerges for rising costs, and no single recommendation addresses all the concerns that people have expressed about higher education in this country. Thus, this report uses multiple data sources, explores a number of possible explanations for the recent increases in college costs, and examines several different policy alternatives for minimizing costs in the future. For example, this report relies extensively on data from the Higher Education General Information Survey (HEGIS), the Digest of Education

Statistics, the National Postsecondary Student Aid Study (NPSAS), the Annual Freshman Survey, the College Board, as well as several other sources.

While using numerous data sources provides valuable information on a wide range of issues, doing so also presents some problems. Each data set has been designed and collected independently to address specific issues. Therefore, they differ in many respects, including the data elements they include, the time frames they span, and the speed with which they are released. To enhance the timeliness of this report, the most recent data available from each data source are used. However, this means that dates may differ from one table to another.

This report focuses on undergraduate tuition levels. Although graduate tuitions have also been increasing at rates similar to undergraduate tuitions, most of the public concern has centered on undergraduate education. Where possible, data on proprietary school costs are also included, since these institutions have experienced recent growth in both enrollments and the share of Federal financial aid dollars. However, data on proprietary schools, particularly trends over time, are scarce.

Tuition figures in this report are generally calculated in constant dollars. Constant dollar calculations account for changes in the purchasing power of the dollar by adjusting figures from different years to a constant dollar value. These adjustments are made on the basis of general inflation rates as measured by changes in the Consumer Price Index over an academic year (July to June). Constant dollar calculations are especially useful in analyzing trend data because they show "real" changes in dollar amounts over time.

Also, unless otherwise indicated, all tuition dollars reported are averaged across students attending institutions in a particular sector. These weighted tuitions reflect not what the institutions charge but rather the "sticker price" facing the average undergraduate. This emphasis corresponds to the driving force behind the Congressional mandate, i.e., the cost to students and

their families of obtaining a higher education. Data presented in this way also automatically account for shifts in enrollments over time. Institutions attended by very few undergraduate students are not weighted the same as large institutions enrolling tens of thousands, and if enrollments decline in one type of institution but increase in another, tuition figures also reflect this change.

Financial data for institutions are also weighted by enrollments throughout this report. However, enrollment figures used for revenue and expenditure calculations include both graduate and undergraduate students. This is because both types of students share institutional facilities and services (e.g., laboratories, gymnasiums, and registrars' services) on many campuses.

The next five chapters of this report directly address specific elements of the Congressional mandate. Chapters II and III cover the items in the mandate which are concerned with costs to students and their families. Chapter II, "The Cost of Obtaining a Higher Education," reviews undergraduate tuitions across different types of colleges and universities and how tuitions have changed relative to inflation, family income, and the availability of different forms of financial aid. Chapter III, "The Impact of Rising College Costs on Students and Their Families," addresses how trends presented in Chapter II have affected affordability, particularly for students from lower- and middle-income families. Analyses that develop measures of "net price" (educational costs minus financial aid) are also presented.

Chapter IV, "Explanations for Rising Tuitions and Costs," examines a number of different reasons that have been posited to explain why college costs have been increasing in the 1980s. These explanations are grouped into two categories: budget-oriented and demand-oriented. The budget-oriented explanations have received the most attention in the media and other published reports; they are based on the notion that tuitions have increased either to cover rising institutional expenditures or to compensate for shortfalls from other revenue sources. Demand-

oriented explanations suggest that tuitions may have increased because students and their families have placed a greater value on higher education over time and are willing to pay the higher prices, particularly if they believe that higher prices mean better quality. This chapter presents the results of an original econometric model which examines the influence of both demand-oriented and budget-based theories of rising college costs.

Chapter V, "Forecasting the Future Costs of Higher Education," examines a number of different projections for undergraduate tuitions, enrollments, and institutional expenditures. It also addresses issues of future college affordability.

Chapter VI, "Minimizing College Costs: Institutional, State, and Federal Options," addresses several elements of the mandate. It reviews a number of policy options that focus on what institutions and Federal and state governments have been doing to contain costs, as well as what they might do in the future. The advantages and disadvantages of various cost reduction strategies are explored, with particular attention to the likely impact of each action on the various parties that pay for higher education in this country.

Finally, Chapter VII highlights some of the key themes and findings which emerge in this report.

These chapters cover many different issues central to understanding higher education costs in the 1980s. This report is also being written at a time when much attention is being focused on the many colleges, universities, and proprietary schools in this country. Concern over the costs of higher education is reflected in the current Department of Justice investigation of whether the tuition-setting practices of a number of prominent colleges and universities violate Federal anti-trust laws. Concern for higher education is also reflected in the reactions to the financial difficulties of the Higher Education Assistance Foundation (HEAF), the nation's largest guarantor of student loans. Concern for higher education is also apparent among policy makers, college

administrators, and the general public as they begin to prepare for the 1991 reauthorization of the Higher Education Act.

All of these manifestations of concern for higher education in the United States revolve around the costs of higher education to students and their families. The continued affordability of a college education is a national priority; this report responds to a major expression of the commitment to this priority -- a Congressional mandate to examine the escalating costs of obtaining a higher education.

# CHAPTER II

# THE COST OF OBTAINING A HIGHER EDUCATION

*Identify the cost of obtaining a higher education and determine how that cost has changed in recent years.*

## Background

Students incur a number of different costs in attending college. These costs include: the tuition and fees that the institution charges; room and board for students living on campus; expenses for books and supplies and other education-related costs; and miscellaneous expenses for transportation, child care, etc. There are also costs in terms of forgone earnings as a result of being a student rather than actively participating in the workforce.

Although the media typically focus on tuition and their increases, it is important to consider all education-related costs. For students attending public colleges and universities, for instance, relatively low tuitions are often accompanied by considerably higher room and board charges. As an example, in the 1986-87 school year, average room and board costs at public four-year institutions in California were $4,148, or nearly four times the tuition charges at these institutions (Sherman, Tikoff, and Masten, 1990).

As tuition and other educational costs have changed, so have other economic measures, such as family income. The issue is, how have educational costs at different types of higher educational institutions increased relative to these measures? Did family incomes increase as fast as tuitions? How did tuition increases compare to changes in the price of other goods and services? Has financial aid increased in sufficient amounts to offset rising educational costs? These questions frame the context in which changing college costs are examined in this chapter.

## Tuition and Room and Board Trends

Of the several components of college attendance costs, the largest elements are generally tuition, room, and board. These are also the costs that colleges set, and as a result they are the ones for which there are the most comparable and consistent data over time. Together, tuition, room, and board comprise what is referred to in this report as resident attendance costs.

The most pronounced differences in costs across schools are in their tuition levels. There are substantial differences between average tuitions at public and private institutions, which are largely attributable to state policy and the appropriations that states provide to subsidize their public higher education systems. In 1987-88, the average private tuition ($6,820) was approximately six times the amount of average public tuition ($1,160).

In addition to the differences in tuition between the public and private sectors, there is also tremendous diversity in the tuition charged by different institutions within each sector. In the public sector (which enrolls nearly 80 percent of all undergraduate students) there are substantial differences between the tuitions of two- and four-year institutions. In 1987-88, the average tuition at public four-year institutions was $1,490, more than double that of the average public two-year institution at $690.[1]

There are also significant differences in public tuitions across states. These differences in large part reflect the extent to which individual states rely on tuition rather than appropriations as a source of revenue to finance higher education. For example, in the 1987-88 school year, tuition

---

[1] In this chapter, tuitions at public institutions refer only to those charged to in-state students. Tuitions for out-of-state students tend to be significantly higher in most states. For example, tuition for in-state students at the University of Michigan (Ann Arbor) was $3,081 in the 1987-88 school year; for out-of-state students, tuition was $9,963 (College Entrance Examination Board, 1987). Also, private two-year tuitions are generally not discussed due to their small share of enrollments.

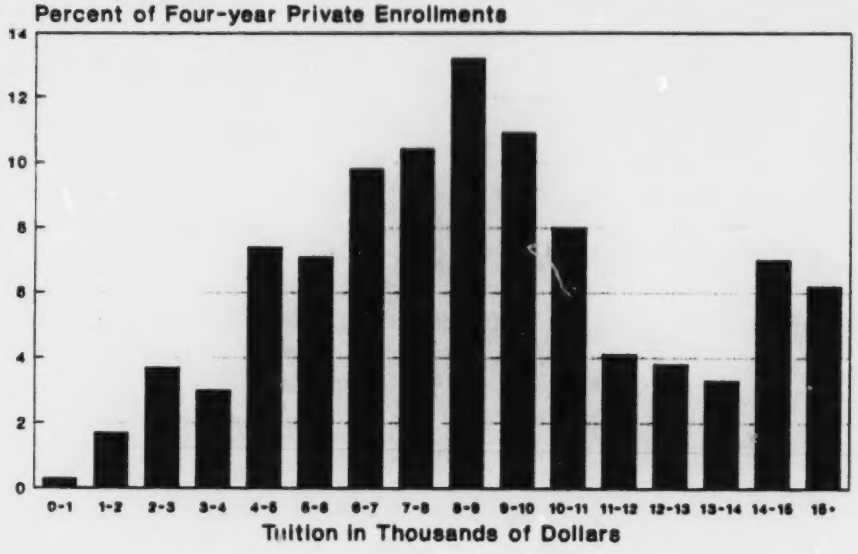
at the University of Vermont was $3,208 compared to $819 at the University of North Carolina at Chapel Hill.

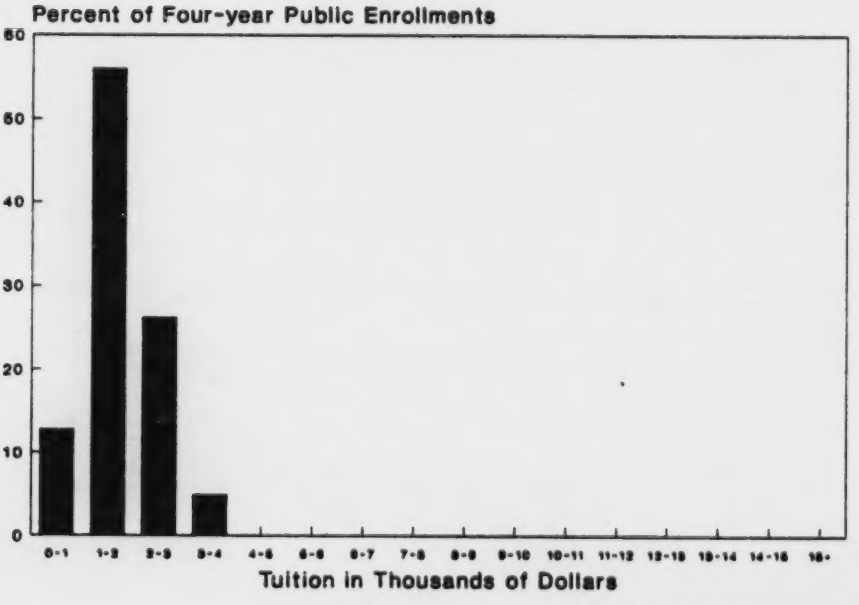
In order to further examine the tuitions that students are charged, Figure II-1 presents the distribution of undergraduate enrollments across four-year institutions with different tuition levels for the 1990-91 school year. The figure shows that in 1990-91, most undergraduate students (69 percent) at public institutions attended schools with tuitions under $2,000. Students at private institutions attended schools that had much greater variation in their tuitions. Although some students (16 percent) attending private schools were charged tuitions under $5,000, more than half of all students at private institutions attended schools that charged tuitions between $5,000 and $10,000. Institutions with tuitions over $10,000 enrolled about 32 percent of all students at four-year private institutions (The College Board, 1990b).

Tuitions in both the public and private sectors have been rising rapidly during the past decade. Table II-1 shows that between 1980-81 and 1985-86, tuitions in both sectors grew approximately 10 percent annually. However, between 1985-86 and 1987-88, tuitions at private institutions grew considerably faster, an average of 8.5 percent annually, compared to only 5.4 percent at public schools. The difference in growth rates has created a growing discrepancy between the tuitions of public and private institutions. This "tuition gap," the ratio of average private to average public tuition, climbed from 5.2 to 1 in 1976-77 to 5.9 to 1 in 1987-88.

Another major component of the cost of attending college is room and board. The contribution of room and board to overall resident attendance costs varies considerably across sectors, though this variation reflects differences in tuitions rather than in room and board charges. Whereas the average tuition at private institutions was about six times higher than the average tuition at public institutions in 1987-88, room and board costs at private institutions were only about 27 percent higher than at public institutions. The reason that room and board costs at

## Figure II-1: Share of Students Enrolled at Schools with Different 1990-1 Tuition




Source: College Board (1990)

## TABLE II-1

## UNDERGRADUATE TUITIONS: 1976-77 to 1987-88 IN CURRENT (UNADJUSTED) DOLLARS

| YEAR (JULY-JUNE) | AVERAGE TUITION | | TUITION GROWTH FROM PREVIOUS YEAR | | RATIO OF AVERAGE PRIVATE TO AVERAGE PUBLIC TUITION |
|---|---|---|---|---|---|
| | ALL PUBLIC INSTITUTIONS | ALL PRIVATE INSTITUTIONS | ALL PUBLIC INSTITUTIONS | ALL PRIVATE INSTITUTIONS | |
| 1976-77 | $479 | $2,467 | | | 5.2 |
| 1977-78 | $512 | $2,624 | 7% | 6% | 5.1 |
| 1978-79 | $543 | $2,867 | 6% | 9% | 5.3 |
| 1979-80 | $583 | $3,130 | 7% | 9% | 5.4 |
| 1980-81 | $635 | $3,498 | 9% | 12% | 5.5 |
| 1981-82 | $714 | $3,953 | 12% | 13% | 5.5 |
| 1982-83 | $798 | $4,439 | 12% | 12% | 5.6 |
| 1983-84 | $891 | $4,851 | 12% | 9% | 5.4 |
| 1984-85 | $971 | $5,315 | 9% | 10% | 5.5 |
| 1985-86 | $1,045 | $5,789 | 8% | 9% | 5.5 |
| 1986-87 | $1,106 | $6,316 | 6% | 9% | 5.7 |
| 1987-88 | $1,160 | $6,820 | 5% | 8% | 5.9 |
| Cumulative gain: | | | 142% | 176% | |

Source: NCES (ED), Digest of Education Statistics, 1989
25th edition, Table 258, pp. 281-2.

public institutions are close to those at private institutions is that unlike tuition, states generally do not subsidize the provision of room and board. Rather, room and board are self-supporting services offered to enrolled students.

The extent to which students obtain their room and board from institutions differs by the type and control of institution that students attend. Many colleges do not even offer room and board arrangements, and large numbers of students who attend colleges that do have dormitories and dining halls choose not to use them. Findings from the National Postsecondary Student Aid Study, a nationally representative survey of postsecondary students enrolled in the fall of 1986, indicate that only about 19 percent of all undergraduate students lived in institutionally owned housing. Most students either lived with their parents (27 percent) or in off-campus housing (54 percent). Students at private schools were more likely to live on campus (46 percent) than were those at public schools (15 percent). The low percentage of students residing on public institution campuses is partially attributable to the large portion of public sector students attending two-year colleges, where many students attend school part-time and live off campus.

When the combined costs of room and board and tuition are considered, the ratio of private sector costs to public sector costs falls to 2.2 to 1 in 1987-88 from the nearly six-to-one ratio between tuitions. The difference between the resident attendance costs in the two sectors is much smaller than the difference in tuitions because average room and board costs differ little between the two sectors.

Total resident attendance costs have grown more slowly than tuition alone, because room and board fees have not risen as rapidly as tuitions. Whereas tuition increased a total of 142 percent in public institutions and 176 percent in private institutions between 1976-77 and 1987-88, room and board fees (combined) grew only 114 percent in the public sector and 148 percent in the private sector over the same period. (See Table II-2.)

## TABLE II-2

## UNDERGRADUATE RESIDENT ATTENDANCE COSTS
## 1976-77 TO 1987-88
## CURRENT (UNADJUSTED) DOLLARS

| YEAR (JULY-JUNE) | AVERAGE RESIDENT ATTENDANCE COST* | | CHANGE FROM PREVIOUS YEAR | | RATIO OF AVERAGE PRIVATE COSTS TO AVERAGE PUBLIC COSTS |
|---|---|---|---|---|---|
| | ALL PUBLIC INSTITUTIONS | ALL PRIVATE INSTITUTIONS | ALL PUBLIC INSTITUTIONS | ALL PRIVATE INSTITUTIONS | |
| 1976-77 | $2,067 | $3,906 | | | 1.9 |
| 1977-78 | $2,170 | $4,158 | 5% | 6% | 1.9 |
| 1978-79 | $2,289 | $4,514 | 5% | 9% | 2.0 |
| 1979-80 | $2,487 | $4,912 | 9% | 9% | 2.0 |
| 1980-81 | $2,712 | $5,470 | 9% | 11% | 2.0 |
| 1981-82 | $3,079 | $6,166 | 14% | 13% | 2.0 |
| 1982-83 | $3,403 | $6,920 | 11% | 12% | 2.0 |
| 1983-84 | $3,628 | $7,508 | 7% | 8% | 2.1 |
| 1984-85 | $3,899 | $8,202 | 7% | 9% | 2.1 |
| 1985-86 | $4,146 | $8,885 | 6% | 8% | 2.1 |
| 1986-87 | $4,469 | $9,676 | 8% | 9% | 2.2 |
| 1987-88 | $4,680 | $10,390 | 5% | 7% | 2.2 |
| Cumulative gain: | | | 126% | 166% | |

*Resident attendance costs include tuition and fees, as well as room and board charges.

Source: NCES (ED), Digest of Education Statistics, 1989
25th edition, Table 258, pp. 281-2.

## College Costs and Inflation

As college costs have increased, so have the prices of other goods and services. Whereas tuition increased 142 percent at public institutions and 176 percent at private institutions between 1976 and 1988, the price of telephone services increased by 56 percent during this period. In comparison, the price of medical care services increased by 170 percent over this time.

One way to assess changes in college costs relative to price increases in the economy as a whole is to compare the growth rates of tuition and overall resident attendance costs to the Consumer Price Index. Although higher education tuition and the CPI have historically moved in the same general direction -- up -- the rates of change in tuition and the CPI have differed dramatically in many years. (See Figure II-2.)

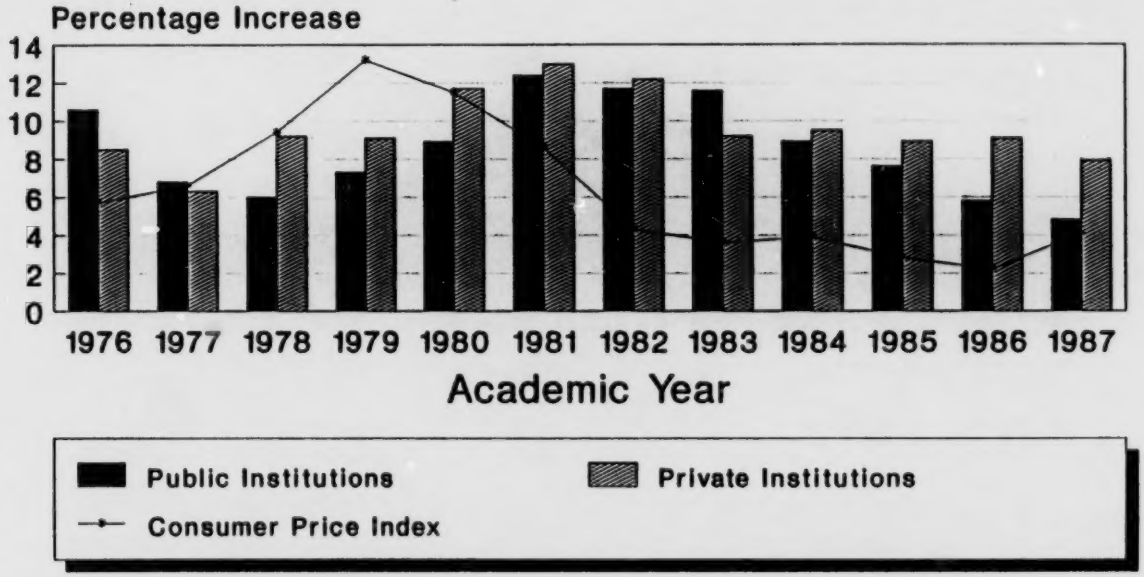
Another way to compare increases in college costs relative to general price inflation is to convert costs across years to constant dollars. This conversion helps answer the question of how much a fixed quantity of money would purchase in different years. Using the CPI, dollar amounts from different years can be adjusted to reflect their value in a given year, i.e., a constant dollar amount. In this report, "constant" or "real" figures are adjusted to their value in 1987-88.[2] Table II-3 traces the growth in tuition and resident attendance costs in various types of institutions between 1976-77 and 1987-88.

In the public sector, average tuition grew 23 percent in real terms between 1976-77 and 1987-88. Almost all of this growth occurred during the 1980s; between 1976-77 and 1980-81, tuitions actually decreased every year in constant dollars before they began to climb again in 1981-82. An examination of tuition trends in the private sector reveals a similar pattern of a slight decline in real tuition during the late 1970s, followed by rapid growth in the 1980s. Over the

---

[2]Constant dollar calculations adjust dollars amounts to the 1987-88 academic year using the annual average of the monthly CPI from July through June.

# Figure II-2
# Trends in Undergraduate Tuition and Fees Academic Years 1976-77 through 1987-88




Source: NCES, Digest of Education Statistics,1989, Table 258, pp. 281-82; Bureau of Labor Statistics (for CPI).

## TABLE II-3

## UNDERGRADUATE TUITIONS & RESIDENT ATTENDANCE COSTS (TUITION + ROOM + BOARD) 1976-77 TO 1987-88 CONSTANT (1987-88) DOLLARS

| ACADEMIC YEAR (JULY-JUNE) | ALL PUBLIC INSTITUTIONS | | ALL PRIVATE INSTITUTIONS | |
|---|---|---|---|---|
| | TUITION | RESIDENT ATTENDANCE COSTS | TUITION | RESIDENT ATTENDANCE COSTS |
| 1976-77 | $945 | $4,079 | $4,869 | $7,708 |
| 1977-78 | $947 | $4,016 | $4,856 | $7,694 |
| 1978-79 | $918 | $3,871 | $4,848 | $7,634 |
| 1979-80 | $870 | $3,713 | $4,672 | $7,333 |
| 1980-81 | $849 | $3,627 | $4,678 | $7,315 |
| 1981-82 | $879 | $3,790 | $4,866 | $7,590 |
| 1982-83 | $942 | $4,016 | $5,239 | $8,167 |
| 1983-84 | $1,014 | $4,129 | $5,521 | $8,545 |
| 1984-85 | $1,063 | $4,270 | $5,821 | $8,983 |
| 1985-86 | $1,112 | $4,414 | $6,163 | $9,459 |
| 1986-87 | $1,152 | $4,654 | $6,578 | $10,077 |
| 1987-88 | $1,160 | $4,680 | $6,820 | $10,390 |
| Cumulative gain: | 23% | 15% | 40% | 35% |

Source: NCES, Digest of Education Statistics, 1989 25th edition, Table 258, pp. 281-2.

entire period spanning 1976-77 through 1987-88, the average real tuition in the private sector grew 40 percent.

During the 1970s, a time of high price inflation, average tuitions in both sectors grew more slowly than inflation and the real cost of tuition declined. In the 1980s, tuitions grew more rapidly in nominal terms than they did through most of the 1970s, and inflation also slowed. In real terms, therefore, average tuitions increased significantly in the 1980s.

In both the public and private sectors, resident attendance costs grew most dramatically when tuition did, i.e., during the 1980s. However, resident attendance costs rose somewhat slower than tuition: 14 percent in the public sector and 35 percent in the private sector between 1976-77 and 1987-88.

## College Cost Increases and Family Income

Increases in tuition and overall resident attendance costs would not be a public concern if students and their families could readily afford to pay the higher charges. Another perspective is thus gained on rising college costs by comparing increases in tuition and room and board to changes in median family income.

In the 1987-88 academic year, median family income was $30,853. The average resident attendance cost for private four-year schools was $10,390 for that same year. This means that the resident attendance costs of private four-year colleges represented 34 percent of the current income of one half of all American families. The average resident attendance cost for public four-year schools was $4,320 in the same year, or about 14 percent of median family income. Thus, average resident attendance costs at private institutions represented more than twice as much of median family income as did resident attendance costs at public four-year institutions.

Table II-4 compares tuition and total attendance costs to median family income for the period 1976-77 to 1987-88. Whether considering tuition alone or total resident attendance charges, the ratio of costs to median family income grew faster at private four-year schools than at public four-year schools. Between 1980-81 and 1987-88, the average tuition at four-year public institutions increased from 3.8 to 4.8 percent of median family income. Tuition at private four-year institutions grew from 16.6 to 22.1 percent of median family income during this same time. Thus, the differential rate of growth in tuition in the public and private sectors throughout the 1980s resulted in the widening difference in the proportion of income needed to pay the full tuition charged by a public or private college.

Other analyses comparing tuition increases to changes in family income have used different income measures (Schenet, 1988; Hauptman, 1990). Disposable personal income and a family income measure adjusted for family size have both been used to determine how changes in tuition and other college costs compare to changes in income. Regardless of the measure used, though, the conclusion is consistent: tuition and college costs in both the public and private sectors rose faster than family income in the 1980s.

Changes in tuition have also been compared to a number of other indicators of a family's economic status. These include personal savings, assets, and average mortgage payments, to name but a few. Again, the general conclusion is that the average family's ability to afford higher education decreased as tuition climbed in the 1980s. Chapter III considers these indicators as they relate to the impact of rising college costs on families from different economic backgrounds.

## TABLE II-4

## UNDERGRADUATE TUITIONS & RESIDENT ATTENDANCE COSTS (TUITION + ROOM + BOARD) AS A PERCENTAGE OF MEDIAN FAMILY INCOME 1976-77 TO 1987-88 CURRENT (UNADJUSTED) DOLLARS

| | | PUBLIC 4-YEAR INSTITUTIONS | | | | PUBLIC 2-YEAR INSTITUTIONS | | | | ALL PRIVATE INSTITUTIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PUBLIC 4-YEAR INSTITUTIONS | | TUITION | RESIDENT ATTENDANCE COSTS | PUBLIC 2-YEAR INSTITUTIONS | | TUITION | RESIDENT ATTENDANCE COSTS | ALL PRIVATE INSTITUTIONS | | TUITION | RESIDENT ATTENDANCE COSTS |
| YEAR (JULY-JUNE) | MEDIAN FAMILY INCOME | TUITION | RESIDENT ATTENDANCE COSTS | AS % OF MEDIAN FAMILY INCOME | AS % OF MEDIAN FAMILY INCOME | TUITION | RESIDENT ATTENDANCE COSTS | AS % OF MEDIAN FAMILY INCOME | AS % OF MEDIAN FAMILY INCOME | TUITION | RESIDENT ATTENDANCE COSTS | AS % OF MEDIAN FAMILY INCOME | AS % OF MEDIAN FAMILY INCOME |
| 1976-77 | $14,958 | $617 | $1,935 | 4.1% | 12.9% | $283 | $1,491 | 1.9% | 10.0% | $2,467 | $3,906 | 16.5% | 26.1% |
| 1977-78 | $16,017 | $655 | $2,038 | 4.1% | 12.7% | $306 | $1,590 | 1.9% | 9.9% | $2,624 | $4,158 | 16.4% | 26.0% |
| 1978-79 | $17,637 | $688 | $2,145 | 3.9% | 12.2% | $327 | $1,691 | 1.9% | 9.6% | $2,867 | $4,514 | 16.3% | 25.6% |
| 1979-80 | $19,600 | $738 | $2,327 | 3.8% | 11.9% | $355 | $1,822 | 1.8% | 9.3% | $3,130 | $4,912 | 16.0% | 25.1% |
| 1980-81 | $21,032 | $804 | $2,550 | 3.8% | 12.1% | $391 | $2,027 | 1.9% | 9.6% | $3,498 | $5,470 | 16.6% | 26.0% |
| 1981-82 | $22,387 | $909 | $2,871 | 4.1% | 12.8% | $434 | $2,224 | 1.9% | 9.9% | $3,953 | $6,166 | 17.7% | 27.5% |
| 1982-83 | $23,438 | $1,031 | $3,196 | 4.4% | 13.6% | $473 | $2,390 | 2.0% | 10.2% | $4,439 | $6,920 | 18.9% | 29.5% |
| 1983-84 | $24,678 | $1,148 | $3,433 | 4.7% | 13.9% | $528 | $2,534 | 2.1% | 10.3% | $4,851 | $7,508 | 19.7% | 30.4% |
| 1984-85 | $26,453 | $1,228 | $3,682 | 4.6% | 13.9% | $584 | $2,807 | 2.2% | 10.6% | $5,315 | $8,202 | 20.1% | 31.0% |
| 1985-86 | $28,323 | $1,318 | $3,859 | 4.7% | 13.6% | $641 | $2,981 | 2.3% | 10.5% | $5,789 | $8,885 | 20.4% | 31.4% |
| 1986-87 | $29,459 | $1,414 | $4,138 | 4.8% | 14.0% | $660 | $2,989 | 2.2% | 10.1% | $6,316 | $9,676 | 21.4% | 32.8% |
| 1987-88 | $30,853 | $1,490 | $4,320 | 4.8% | 14.0% | $690 | $3,160 | 2.2% | 10.2% | $6,820 | $10,390 | 22.1% | 33.7% |

Source: NCES (ED), Digest of Education Statistics, 1989 25th edition, Table 258, pp. 281-2.

## Tuitions at "Expensive" Schools

In the 1988-89 academic year, 130 schools had undergraduate tuitions greater than $10,000 (The College Board, 1988). These schools, all of which are private, are often cited in discussions of college costs as an indicator of how expensive it is to attend college. Included among these schools is a mix of well-known universities and liberal arts colleges. The average tuition of these schools in 1988-89 was $11,900 or more than twice that of all other private institutions.[3] In the 1988-89 academic year, these schools enrolled about three percent of all undergraduates (Sherman and Cohen, 1990a).

Tuitions at the most expensive schools have attracted attention, not only because they are much higher than those at other schools, but also because they have grown more quickly than tuitions at other schools. For example, between 1983 and 1988, tuitions at expensive schools grew by 26 percent in real terms compared to 19 percent at other private schools (Sherman and Cohen, 1990a).

The relatively large increase in tuitions at the most expensive schools has raised the concern that students from middle- and lower-income families will not be able to attend these schools. Kingston and Lewis (1990) present evidence that through the 1980s, an increasingly larger share of students who attended expensive private institutions were from families with over $100,000 in annual income.

Although students at the most expensive schools are more likely to come from higher-income families, it is important to realize that students from all income groups attend these schools. Students from lower- and middle-income families enrolled at these institutions are likely

---

[3]Sherman and Cohen (1990a) list the most expensive schools and provide data on their 1988-89 tuitions and enrollments. Kirshstein, Tikoff, Masten, and St. John (1990) present an analysis of the revenues and expenditures of the 100 most expensive schools (based on 1987-88 tuition levels) using data from the Higher Education General Information Survey (HEGIS).

to receive financial aid. This aid helps to bring the cost of attending these schools closer to that of less expensive private schools (Sherman and Cohen, 1990a). Despite the provision of financial aid, however, students pay more on average to attend expensive private schools than to attend other types of schools.

## College Costs and Financial Aid

Financial aid offsets the costs of attending college for many students. In the 1986-87 academic year, 46 percent of all undergraduates received some form of financial aid (U.S. Department of Education, 1988). The Federal government is the major provider of financial aid, awarding about 75 percent of all aid dollars or about 20 billion dollars in the 1988-89 school year; institutions and states provide most of the rest of available financial aid.

In the late 1970s, tuition in both the public and private sectors declined in real terms. (See Table II-3.) Over this same time period, total financial aid increased. (See Table II-5.) In the early 1980s, however, tuitions began to increase rapidly and financial aid actually declined for the first two years of this decade. Total financial aid grew only seven percent in real terms between the 1980-81 and 1987-88 school years, when college tuitions increased by about 27 percent in real terms. In short, total financial aid grew considerably in the late 1970s but failed to keep pace with increases in college costs during the 1980s.

During the 1980s there were also major changes in Federal student aid programs. First, a larger share of Federal aid became available to the general population of students and less aid was reserved for special groups of students. This change is attributable to decreases in the funding of specially directed aid programs, principally the phasing out of payments to children of Social Security recipients and a declining amount of veterans' aid. Thus, the total amount of

## TABLE II-5

## STUDENT FINANCIAL AID 1976-77 TO 1987-88 IN CONSTANT (1987-88) DOLLARS

| YEAR (JULY-JUNE) | FEDERAL GENERAL AID IN 1987-88 DOLLARS | FEDERAL SPECIAL AID IN 1987-88 DOLLARS | STATE GRANT AID IN 1987-88 DOLLARS | INSTITUTIONALLY AWARDED AID IN 1987-88 DOLLARS | TOTAL AID IN 1987-88 DOLLARS | PERCENTAGE CHANGE |
|---|---|---|---|---|---|---|
| 1976-77 | $8,056 | $8,806 | $1,200 | $3,011 | $21,073 | |
| 1977-78 | $8,720 | $7,955 | $1,253 | $2,953 | $20,881 | -1.0 |
| 1978-79 | $9,321 | $6,611 | $1,228 | $2,838 | $19,997 | -4.0 |
| 1979-80 | $12,063 | $5,567 | $1,176 | $2,818 | $21,625 | 8.1 |
| 1980-81 | $13,892 | $5,329 | $1,071 | $2,755 | $23,047 | 6.6 |
| 1981-82 | $13,742 | $4,673 | $1,238 | $2,766 | $22,419 | -2.7 |
| 1982-83 | $12,681 | $3,138 | $1,305 | $2,959 | $20,083 | -10.4 |
| 1983-84 | $13,834 | $2,268 | $1,391 | $3,279 | $20,772 | 3.4 |
| 1984-85 | $14,691 | $1,924 | $1,436 | $3,528 | $21,578 | 3.9 |
| 1985-86 | $15,171 | $1,739 | $1,524 | $3,911 | $22,346 | 3.6 |
| 1986-87 | $15,004 | $1,589 | $1,565 | $4,224 | $22,382 | 0.2 |
| 1987-88 | $17,063 | $1,491 | $1,642 | $4,561 | $24,757 | 10.6 |
| Cumulative gain: | 112% | -84% | 37% | 51% | 17% | |

Source: College Board, Trends in Student Aid: 1980 to 1989, Table 1, p. 6; Table 4, p. 9.

Federal generally directed aid increased, though not by enough to offset the decline in specially directed aid. (See Table II-5.)

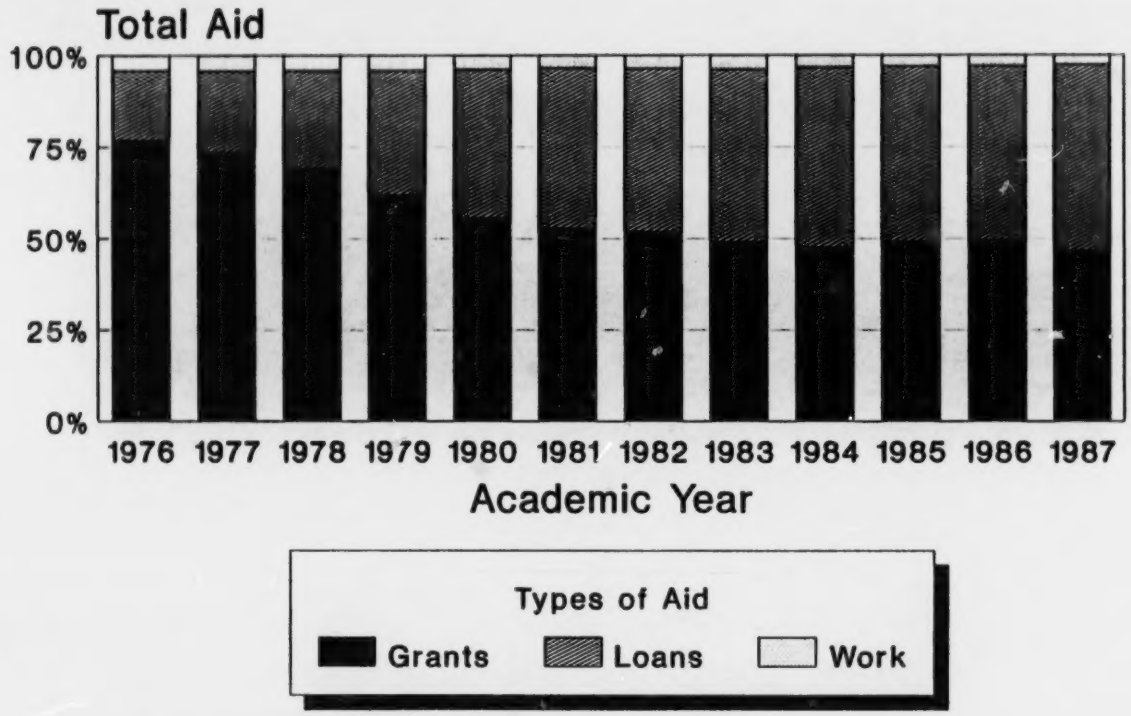
The Pell Grant and Stafford Loan programs are the largest student aid programs funded and administered by the Federal government. Both grew rapidly during the 1970s. Then in the 1980s, the average amount of aid received under the Stafford Loan program decreased in real terms. (Between 1980 and 1987, the value of the average Stafford Loan awarded fell by about 12 percent in real terms.) Although average Pell awards increased over this time, average awards under this program were about half the size of the average Stafford Loan (The College Board, 1989).

The decline in the average value of Stafford Loan awards during the 1980s is particularly important because it was occurring at the same time that students were relying increasingly on loans to finance their education. The growing dependence on loans was sparked by rising higher education attendance costs and reductions in Federal grant programs (primarily the specially directed aid programs). Between 1980-81 and 1987-88, the share of grants as a portion of total available aid dollars dropped from 56 percent to 47 percent, while loans grew from 40 to 51 percent of all financial aid. (See Figure II-3.)

It is important to note that loan aid and grant aid have very different effects on lowering the cost of attendance. Because loans must be repaid, they are worth less to students than grants, which have no repayment obligation. However, many Federal educational loans are subsidized in one or more of the following ways:

- Students do not have to make loan payments while they are enrolled in school;
- The Federal government makes interest payments while the student is in school; and
- Interest paid by students is calculated at less-than-market rates.

## Figure II-3
## Student Financial Aid by Type




Source: College Board, Trends in Student Aid, 1980 to 1989, Table 4, p. 9.

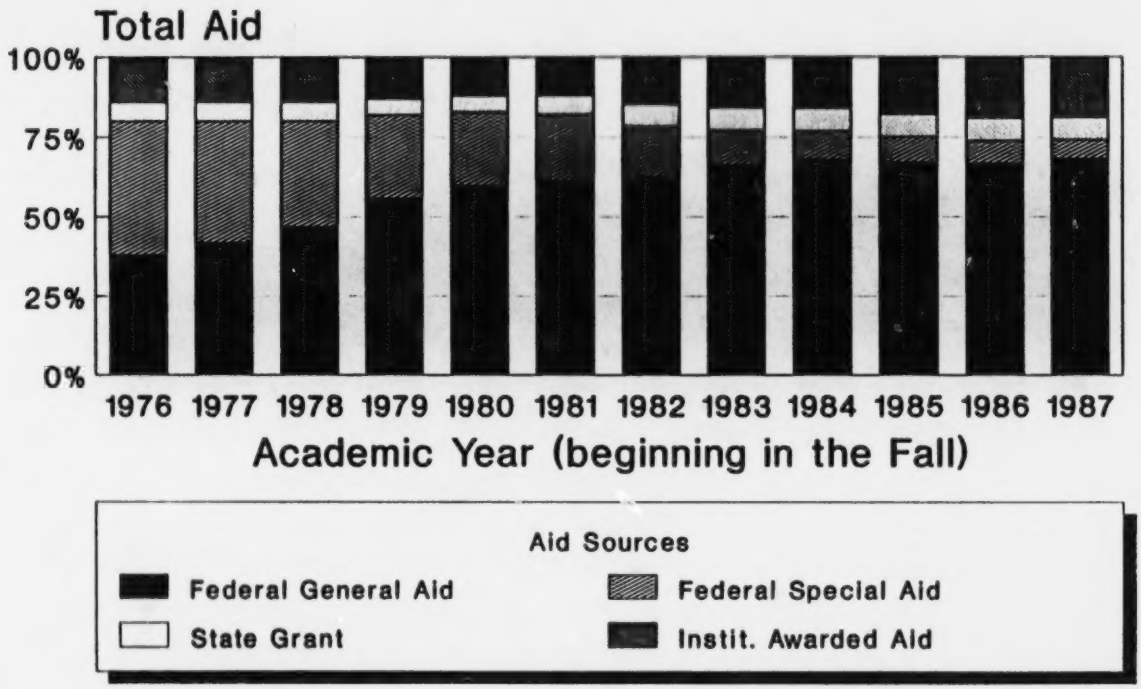
Thus, the value of a loan to a student is some portion of the amount borrowed; the precise value depends on many factors (e.g., length of time the student is in school). Several studies (CBO, 1988; McPherson and Schapiro, forthcoming) have valued loans at approximately 50 percent of their face value. Using this estimate of the value of loans, the total amount of financial aid awarded to students grew by only one percent in real terms between 1980-81 and 1987-88. This compares to a seven percent increase in aid disbursed if loans are calculated at face value.

Another trend of the 1980s was a decline in the share of total aid provided by the Federal government and increases in the portions of aid from state and institutional sources. The Federal share of all financial aid reached a high of 83 percent in the 1980-81 school year and then dropped to 75 percent of all aid in the 1987-88 school year. (See Figure II-4.)

The form of financial aid that grew most between 1980-81 and 1987-88 was aid awarded by institutions. During this time, aid provided by institutions increased from 12 to 19 percent of all aid, reflecting a total increase in institutional aid of 66 percent in constant dollars. Much of this growth appears to have occurred at private colleges and universities, where total institutional aid provided to undergraduates increased by 87 percent in real terms (NIICU, 1990).

One reason that private institutions meet need with their own resources is that students are limited to maximum aid awards under various Federal aid programs. For example, the maximum Stafford Loan an undergraduate can receive is currently $2,625 for first and second year students and $4,000 for third and fourth year students; the current ceiling on Pell awards is $2,300. Even if a student were to receive the maximum award under both programs, this financial aid would not cover total resident attendance costs at most private institutions.

## Figure II-4
# Student Aid By Source




Source: College Board, Trends in Student Aid, 1980 to 1989, Table 1, p. 6.

## Conclusion

This chapter has examined overall trends in how the costs of attending college have changed over time. During the 1980s tuitions increased considerably faster than inflation, particularly among private institutions. The total amount of financial aid available also increased, but did not keep up with tuitions. As a result, students are paying more to attend college.

However, as suggested by the Congressional mandate, a thorough discussion of changes in college costs includes consideration of how the ability of students and their families to afford higher education has changed over time, particularly for students from lower- and middle-income families. These changes are discussed in detail in the next chapter.

# CHAPTER III

# THE IMPACT OF RISING COLLEGE COSTS ON STUDENTS AND THEIR FAMILIES

*Evaluate the impact of such changes in cost on. . . students, and lower and middle income families.*

## Background

To a large extent, the public outcry over rising college costs stems from a basic commitment that higher education remain affordable for all students who wish to pursue a postsecondary education. For many students and their families, increasing college costs have become a real financial burden. The ability of these families to afford a higher education has thus become a national concern.

For many undergraduates, financial aid reduces the costs of attending college. In 1986, almost half (46 percent) of all undergraduates received some form of financial aid (U.S. Department of Education, 1988). Thus, what many students pay to attend college is different from what colleges actually charge. Several studies have calculated that the average student paid more to attend a postsecondary institution in the 1980s than in the 1970s, even after financial aid is factored in. That is, the "net price" of college, the price students pay after financial aid is deducted, appears to have increased as has the "sticker price," or posted tuition plus other costs.

Since growth in financial aid programs did not keep pace with tuition growth in the 1980s, on average, students paid more to attend a postsecondary institution in the 1980s than in the 1970s. That is, the "net price" of college has increased.

Several recent reports have developed measures of net price that relate changes in financial aid patterns to changes in tuition (Schenet, 1988; Congressional Budget Office, 1988).

Schenet, for example, combines aggregate data on average costs of attendance and total aid awarded per full-time-equivalent student. Her findings indicate that the average cost of attendance declined by eight percent between 1970 and 1980 in constant dollars and increased 26 percent between 1980 and 1986; the average net price of attending college declined 48 percent in real terms during the earlier time period, but increased 104 percent during the first six years of the 1980s.

A Congressional Budget Office (CBO) report (1988) used three definitions of net price to compare changes in the sticker price to changes in the price students pay after aid is awarded. One of CBO's definitions of net price included all grants, as well as the face value of all loans and all wages from work-study; another included all grants and work-study awards, valuing loans at half of their face value; the third definition included only grants. Regardless of the definition used, the CBO report found that the average net price of attending college fell considerably in the first half of the 1970s. Over the next five years, net price remained steady in real terms only if all forms of aid were subtracted at face value; under the other two definitions, net price increased. In the 1980s, net prices rose sharply according to each definition.

While aggregate trends and studies summarize how changes in tuition, financial aid, and living costs affect student educational costs, they stop short of addressing how the confluence of higher tuitions and less financial aid has affected lower- and middle-income students. This chapter addresses the basic questions: To what extent do college costs affect enrollments? Has college become less affordable? More specifically, has higher education become less affordable for students from lower- and middle-income families?

## College Costs and Enrollments

Understanding the affordability of higher education requires understanding the basic relationships among college costs, financial aid, and the enrollment of students from different socioeconomic backgrounds. Increasing college costs become particularly important when they prohibit students from attending the college of their choice or hinder their ability to attend college at all. A number of different studies have concluded that price indeed matters to students and their families, particularly those from lower-income backgrounds.

In summarizing the results from many different studies, Leslie and Brinkman conclude that for every $100 increase in tuition, the first-time enrollment rate for 18 to 24 year olds drops 0.7 percent. These studies also indicate that the enrollment effects of tuition increases are greatest for community colleges, where costs are comparatively low, and smallest for private schools, where the average tuition is relatively high (Leslie and Brinkman, 1988).

Other studies have shown that the availability of financial aid has the greatest effect on the enrollment of students from low-income families. A study by Manski and Wise (1983), for example, concludes that nearly 40 percent of low-income students would not have enrolled in college in 1980 absent the Basic Educational Opportunity (now Pell) Grant program. In contrast, the authors estimate that only 11 percent of students from middle-income families and just two percent of students from higher-income families would not have enrolled in college without this grant program.

In a recent study prepared for the Department of Education, McPherson and Schapiro (forthcoming) also conclude that lower-income white students are sensitive to tuition increases. (Data were insufficient to reliably estimate these effects for minority students.) Attempting to reconcile the conflict in findings between cross-sectional econometric results and aggregate historical data, the authors' own analyses reveal that an increase of $100 in <u>net</u> cost results in a

three percent enrollment decline for lower-income white students. When the effects of "sticker price" and the subsidy value of student aid are considered separately, the results indicate that students respond similarly to tuition cuts and financial aid increases (McPherson and Schapiro, forthcoming).

Other studies reviewed by Leslie and Brinkman have examined the impact of financial aid on college access, choice, and persistence. These analyses indicate that without grant aid, between 20 and 42 percent of low-income students would not have enrolled in college; between 7 and 20 percent of middle-income students would not have enrolled; and between 2 and 4 percent of the higher-income students would not have attended. Results from student opinion studies basically support these findings: lower-income students are most affected by grant aid in their decisions to attend or not attend higher education institutions (Leslie and Brinkman, 1988).

Financial aid also appears to affect a student's choice of school. After reviewing 23 econometric analyses which examined the role of financial aid on student choice, Leslie and Brinkman conclude:

- Institutions can improve their ability to recruit students by using student aid. In situations in which students are clearly choosing between two or more institutions, student aid that reduces the net price difference by $100 will have a positive enrollment effect of about 1.8 percent on the higher cost institution.
- The effect of Pell Grants on student choice is unclear. The studies that have examined this issue have come up with conflicting results. The positive choice effects of state student aid programs have been more clearly established.
- Application and enrollment patterns for a variety of students at least hint that student aid has had a beneficial effect on student choice (Leslie and Brinkman, 1988).

Again, students from lower-income families are most affected by financial aid when choosing between two or more colleges. For these students, grants have a larger effect on enrollments than do loans or work study.

It is also important to determine the impact of financial aid on whether students remain in school once they enroll. Many different factors have been examined along with financial aid in attempts to determine which institutional, student, and family characteristics influence students to remain in school. After reviewing 46 different studies, Leslie and Brinkman conclude that financial aid does affect student persistence in college. Their findings include:

- The size of the effect has grown in a positive direction in recent years;
- Nonwhite aid recipients do not persist as well as white aid recipients;
- Persistence is enhanced by larger amounts of aid; and
- When aid forms are compared to one another, grant and scholarship aid have a more positive effect on persistence than do loans. (Leslie and Brinkman, 1988).

Thus, it appears that access to college, choice among schools, and persistence once enrolled are all affected by student financial aid. Without financial aid, many students would not be able to attend or remain in college and many others would not be able to attend the college of their choice.

## Trends in the Affordability of Higher Education

In discussing the affordability of higher education, Bradburd *et al.* (1990a) note:

> "Affordability" is a more subtle notion than may at first appear. There are important differences between being able to afford the "cheapest" postsecondary option available (which is usually a community college within commuting distance); the most expensive option (typically an elite private institution); or some alternative in between (such as attendance at a state university on a resident basis).

Therefore, the notion of affordability suggests the concept of choice. An underlying purpose of financial aid, particularly Federal Title IV programs, is to provide students with at least some of the resources necessary to attend any postsecondary institution to which they are admitted and wish to attend. Financial aid formulas reflect this purpose. Both the cost of the school the student wishes to attend and an amount that the student and his/her family are expected to

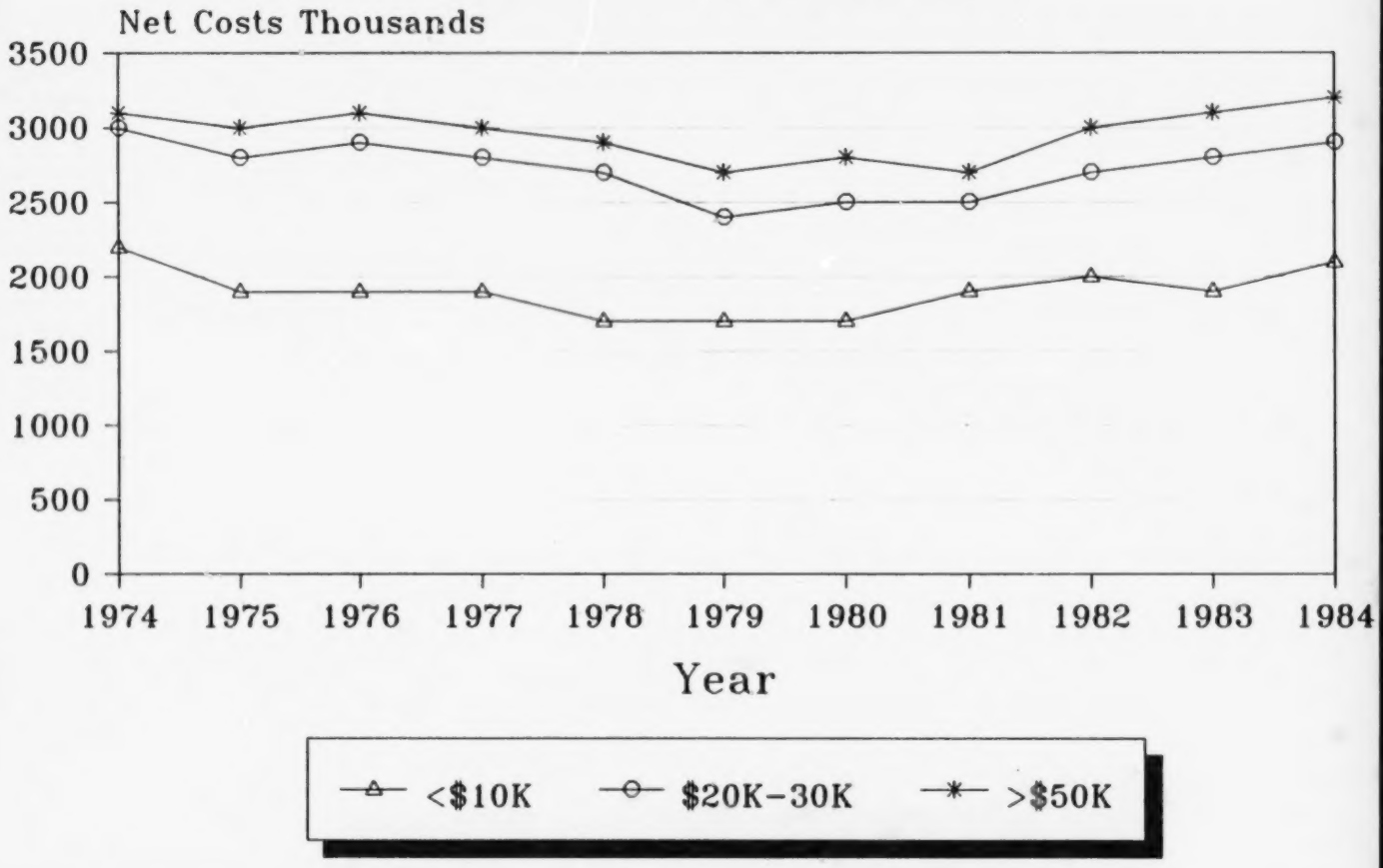
contribute toward educational expenses are considered in calculations of financial need. Therefore, students with similar family situations attending differently priced schools are eligible for different amounts of financial aid.

The data needed to examine whether higher education has become more or less affordable to students from different financial backgrounds are not readily available. Although the Cooperative Institutional Research Program at the University of California, Los Angeles collects data through its Annual Freshman Survey, these data are problematic for several reasons: they are limited to full-time, first-time freshmen; they rely on student reporting of financial aid and income; the sample is limited to institutions that elect to participate; the data do not include individuals who are not enrolled in college; and each institution administers its own survey, resulting in considerable variation in response rates. Nonetheless, if used with caution, these data provide a rough picture of how the net costs of college have changed over time for students from different economic backgrounds.

Using a definition of net price which incorporates the full value of grants and discounts loans at one half the amount borrowed, Bradburd *et al.* report that the net costs of education fell for students in the late 1970s but rose again in the 1980s. This student-level finding is consistent with findings from studies using aggregate trend data. Bradburd and colleagues also found that students from all income groups experienced these net cost changes. (See Figure III-1.) Between 1974-75 and 1980-81, for example, the net cost of attending a private four-year college dropped from $3,642 to $2,482 in real (1978) dollars for students from families earning less than $10,000.[4] The net cost for students from middle-income families ($20,000 - $30,000) also dropped during this time period, from $4,770 to $3,686. Even students from upper-income families ($50,000+)

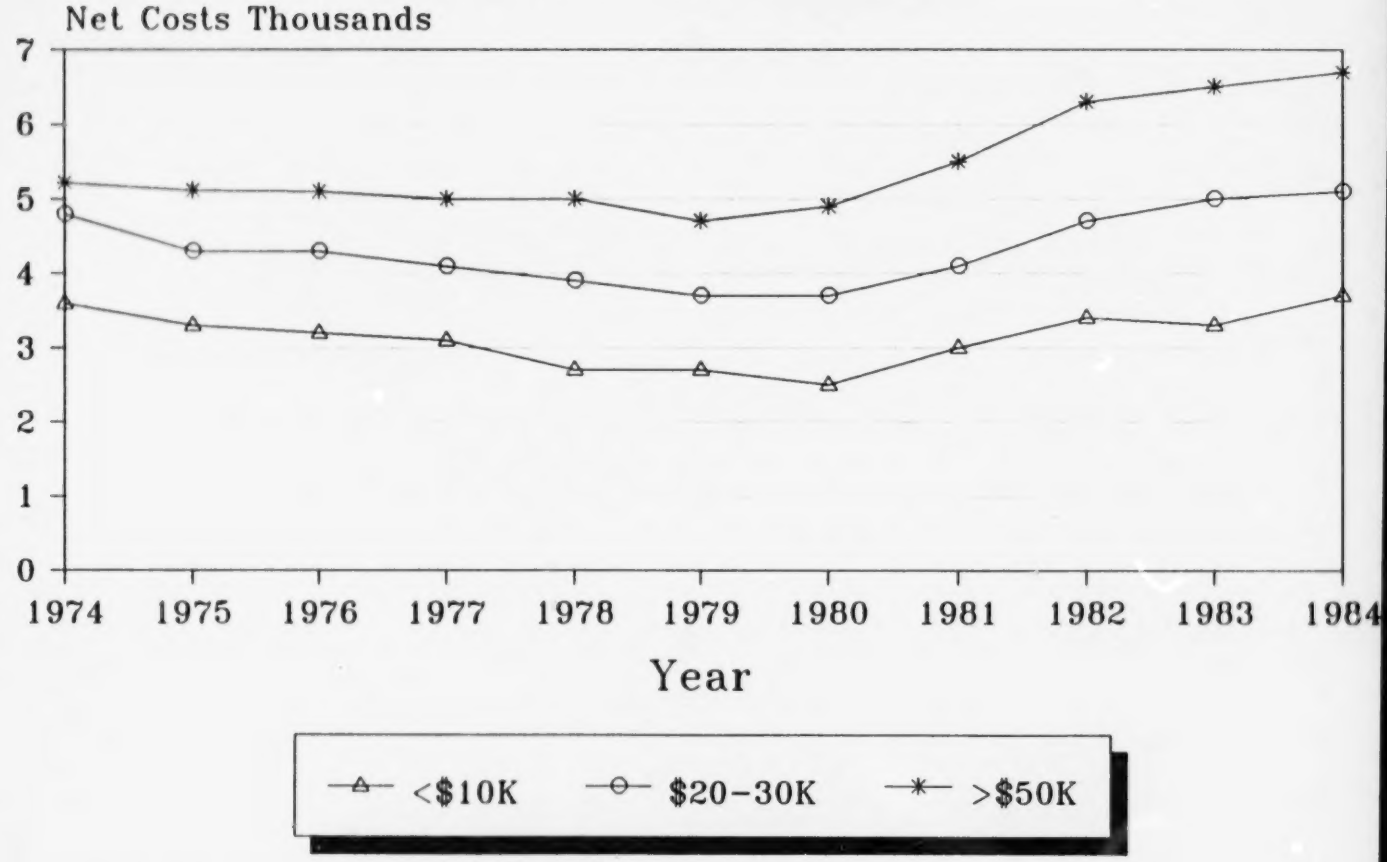
[4]Family income is also reported in constant 1978 dollars.

FIGURE III–1A
Net Cost of Attendance for Three Income Groups, in 1978 Dollars
Public 4–Year Institutions




SOURCE: Bradburd *et al.*, 1990.

FIGURE III-1B
Net Cost of Attendance for Three Income Groups, in 1978 Dollars
Private 4-Year Institutions




SOURCE: Bradburd *et al.*, 1990.

experienced a slight drop in their net costs, from $5,229 to $4,932. Net costs in public four-year colleges followed similar patterns. (See Table III-1.)

While net costs decreased for students from all economic backgrounds in the late 1970s, the lowest income students experienced the largest relative net cost declines. Then, in the early 1980s, all students experienced an increase in what they were paying to attend college, but lower-income students appear to have been affected the most. Between 1974-75 and 1980-81, net cost dropped 32 percent for students from families earning less than $10,000 a year, but only 6 percent for students from families earning more than $50,000 a year. Between 1980-81 and 1984-85, the net costs of the lowest income students attending private four-year colleges increased 48 percent, while the net costs for students from the highest income families increased 36 percent.

Lower-income students may also have been affected by rising costs in another way in the early 1980s. The net cost difference between attending the average private and public four-year college increased 93 percent for the lowest-income students. Whereas the net cost difference between attending a four-year college in the private and public sectors was only $829 in 1980-81 for students whose families earned less than $10,000, this difference almost doubled only four years later to $1,600. This finding suggests that college choice may have become more restricted for students from lower-income families as real net costs increased. Differences in net costs across the private and public sectors also increased for students from middle- and upper-income families, but the impact of this increase would not likely be as severe for students from these families.

Analysts, college administrators, and policymakers have also addressed changes in the affordability of higher education in recent years. Their conclusions often reflect the general importance placed on higher education in this country. As an example, Mortenson has written several reports that decry the impact of changes in Federal aid programs on the affordability of

## TABLE III-1

### Trends in Student Net Price Costs
**(1978 Dollars)**

| | PRIVATE FOUR-YEAR | | | PUBLIC FOUR-YEAR | | |
|---|---|---|---|---|---|---|
| | Family Income Levels | | | Family Income Levels | | |
| | <$10,000 | $20,000-$30,000 | >$50,000 | <$10,000 | $20,000-$30,000 | >$50,000 |
| 1974-75 | 3,642 | 4,770 | 5,229 | 2,161 | 2,964 | 3,091 |
| 1976-77 | 3,178 | 4,277 | 5,098 | 1,897 | 2,860 | 3,119 |
| 1978-79 | 2,744 | 3,891 | 4,934 | 1,729 | 2,662 | 2,930 |
| 1980-81 | 2,482 | 3,686 | 4,932 | 1,653 | 2,488 | 2,820 |
| 1982-83 | 3,358 | 4,746 | 6,264 | 1,979 | 2,719 | 2,952 |
| 1984-85 | 3,682 | 5,134 | 6,703 | 2,082 | 2,892 | 3,169 |

SOURCE: Annual Freshmen Survey, 1974, 1976, 1978, 1982, 1984.

college (1988; 1990a; 1990b). His particular concern is the shift in emphasis from grants to loans in Federal student aid programs. Using data from the Annual Freshman Survey, the Current Population Survey, and some specific state studies, Mortenson concludes that the shift from grants to loans made higher education less affordable to lower-income students, as evident in their declining enrollment rates.

Mortenson also claims that a number of changes in financial aid policies at the Federal, state, and institutional levels have benefitted students from middle- and upper-income families at the expense of lower-income students. Some of these changes include:

- Modifications in the Pell Grant formula to extend the eligibility of middle-income students;
- The development of college savings plans designed for families who are able to save (e.g., middle- and upper-income families);
- The elimination of Social Security survivors' benefits; and
- Growth in non-need-based institutional aid (Mortenson, 1990b).

While it cannot be denied that lower-income students have been affected by a number of trends in financial aid and college costs, many of Mortenson's conclusions are subject to further investigation. It is difficult to understand, for example, how eliminating Social Security education benefits, a non-need-based form of financial aid, could have benefitted students from middle- and upper-income families at the expense of poorer students. And while college savings plans do primarily help middle-income families who are able to save for the higher education of their children, it could also be argued that if those families who had the resources save for their children's higher education did so more readily, more financial aid would be available to those students who need it the most.

Furthermore, the intent of financial aid has never been to serve the poor exclusively. If this were the case, the rather sophisticated need analysis methodologies currently employed to

determine eligibility for many Federal aid programs would not be necessary. Instead, simple income cutoffs could be used. Expenses, debts, family situations, and assets are all considered in the calculation of aid awards in order to provide assistance to all students who may need help in paying for college, regardless of family income.

In recent years, a number of trends in the personal finances of American families suggest that students from middle-income families may be more likely to need financial aid now than they did ten or more years ago. First, families are saving less. Data taken from the National Income and Product Accounts reveal a drop in the percentage of disposable income going into savings from 9 percent in the mid-1970s to 3.25 percent in 1987. Although the rate of savings increased to 5 percent in 1989, this rate is still far below 1970s levels. Thus, even families most likely to save -- those of middle and upper incomes -- have been saving considerably smaller percentages of their disposable incomes.

This decline in savings rates can be explained in part by dramatic increases in debt. Both installment and mortgage debt increased in the 1980s. Total installment debt, used for purchases such as automobiles and major appliances, has increased from 15 percent of disposable income in 1975 to 19 percent in the late 1980s. Mortgage debt increased even more dramatically. Whereas in 1975, mortgage debt comprised 70 percent of all disposable income, by 1988, this type of debt had risen to 93 percent of disposable income.[5] Higher total debt rates suggest greater financial commitments to pay off the debt and/or prolonged repayment periods.

Tuitions have been increasing, disposable income is increasingly being used to cover mortgages and installment debt, and savings have declined. These trends indicate that Americans, on average, have <u>less</u> disposable income available to cover college expenses and thus a greater

---

[5]Findings on both installment debt and mortgage debt are reported on total amounts owed and <u>not</u> monthly payments. Thus, debt rates can equal or exceed disposable income.

need for financial aid. They also suggest that middle-income students and families are also being squeezed by the rising cost of college in the 1980s.

There have been, however, several changes in Federal financial aid formulas that have enhanced middle-income students' eligibility for aid. Using data from American College Testing (ACT), Mortenson demonstrated for a number of different student characteristics (e.g., independent and dependent, varying family sizes) that as a result of Congressional modifications to the Pell Grant formula in 1986, the average Pell award increased considerably more for students from higher-income families than for students from lower-income backgrounds (Mortenson, 1990b).

There have also been changes in aid from non-Federal sources which benefit middle- and upper-income students. As noted in Chapter II, financial aid provided by private colleges and universities increased considerably in the 1980s. Although most institution-funded financial aid to undergraduates is based on need, non-need-based institutional aid grew faster than need-based institutional aid in the 1980s. Between 1980-81 and 1987-88, for example, non-need-based aid grew by 324 percent in constant dollars and need-based aid grew by 79 percent in private liberal arts I colleges. In private research and doctorate-granting universities, non-need-based aid increased by 103 percent while need-based aid grew by 91 percent in constant dollars (NIICU, 1990). Thus, students who would not necessarily qualify for Federal Title IV aid (which is awarded primarily on the basis of need) are receiving larger and larger amounts of institutional aid, at least in private colleges and universities.

Nonetheless, most of the aid provided by four-year private institutions is still awarded to students from middle- and lower-income families (Sherman and Cohen, 1990a). Students who receive institutional aid are also likely to receive Federal aid, although there are students (primarily from higher-income families) who receive institutional aid only (Sherman and Cohen,

1990b). Thus, institutional aid at private schools is an important source of financial assistance that helps students from lower- and middle-income families meet financial need not covered by Federal aid.

All of these analyses point to the same basic conclusion: in general, higher education has become less affordable, particularly for lower-income students. However, middle-income students have also been affected by rising tuitions, declining Federal financial aid, and shifts in consumer patterns. The question we now address is: how are students currently meeting the costs of higher education?

## The Current Affordability of Higher Education

Analyses of NPSAS data presented in Table III-2 reveal that students from different economic backgrounds pay for their college educations differently. In 1986-87, poorer students in all types of institutions were more likely to receive financial aid than were students from higher-income backgrounds. In all types of schools except public two-year colleges, over 80 percent of all students in the lowest income quartile received some form of aid. Furthermore, the more expensive the school, the higher the percentage of students from all income backgrounds who received some form of aid. In four-year private institutions (the most expensive type of institution), at least half of all students in all income quartiles received some form of financial assistance.

The type of financial aid received affects net price outcomes. Similar to the work of Schenet and the Congressional Budget Office, Kirshstein and Cohen (1990) used three different measures of net price. These measures are:

- NET PRICE 1 = EDUCATIONAL COSTS - GRANTS;
- NET PRICE 2 = EDUCATIONAL COSTS - [GRANTS + 1/2 LOANS]; and
- NET PRICE 3 = EDUCATIONAL COSTS - [GRANTS + LOANS + WORK-STUDY].

## TABLE III-2

**Percentage of Full-Time Dependent Undergraduates Receiving Financial Aid by Income Quartile: 1986-87**

| | Public | | Private | | Proprietary |
|---|---|---|---|---|---|
| | 4-year | 2-year | 4-year | 2-year | |
| Income Quartiles | | | | | |
| Lowest | 81% | 64% | 91% | 88% | 93% |
| 2 | 60% | 43% | 88% | 76% | 84% |
| 3 | 45% | 28% | 79% | 63% | 74% |
| Highest | 22% | 15% | 50% | 38% | 46% |

SOURCE: Kirshstein and Cohen (1990)

The first measure considers only the purest subsidy -- grants -- and deducts the grant award at face value from educational costs. The second net price measure recognizes that educational loans must be repaid but are partially subsidized; thus, it subtracts the full value of grants and one-half of the loan value from the "sticker price" and other costs. The third net price calculation is essentially a measure of current price, or the amount of money students pay at the time of enrollment; it deducts the full value of all grants, loans, and work study awards from the sticker price.

Table III-3 provides data concerning what financially dependent, full-time, full-year undergraduates pay to attend different types of institutions. A number of comparisons can be drawn from these data; summarized below are some of the findings central to issues of income and affordability. (For a more detailed discussion, see Kirshstein and Cohen, 1990.)

- Financial aid appears to be going to those students who ostensibly need it the most. Students from lower-income families in all types of schools receive more financial aid than do students from higher-income families, and subsequently their net price, according to each definition, is considerably lower.

- Even the lowest income students who are eligible for grant aid also depend on loans and work study to cover educational costs. For students in the lowest income quartile attending private four-year colleges and universities, the average total cost was $10,083; the net price after grants alone are deducted was $5,821; the net price after all aid is subtracted at face value was almost $2,000 less, or $3,876.

- The higher the student's family income, the larger the difference in net price between attending a public and private four-year college. For students in the highest income quartile, the differential cost was over $4,000 for all definitions of net price; for students in the lowest income quartile, the difference ranged from $1,100 to $2,000.

- Although financial aid reduces the costs of college for many students, aid recipients still make considerable contributions toward their educational expenses. Even the lowest income students in public colleges paid, on average, over $2,500 after all types of financial aid were deducted at face value.

Further analyses of these data reveal that the financial aid packages of lower-income students enrolled in public four-year institutions consist primarily of Federal aid. Higher-income

## TABLE III-3

### Net Price Differences for Full-Time Dependent Undergraduates by Institution Type and Income Quartile: 1986-1987

| School Type | Income Quartile | Average Costs* | Grants | NET PRICE: Grants + 1/2 Loans | NET PRICE: Grants + Loans + Work Study |
|---|---|---|---|---|---|
| Public 4-Year | Lowest | $ 5,488 | $ 3,802 | $3,377 | $2,777 |
| | 2 | $ 5,462 | $ 4,763 | $4,394 | $3,926 |
| | 3 | $ 5,557 | $ 5,201 | $4,947 | $4,651 |
| | Highest | $ 5,783 | $ 5,618 | $5,519 | $5,405 |
| Public 2-Year | Lowest | $ 3,855 | $ 2,973 | $2,859 | $2,665 |
| | 2 | $ 3,703 | $ 3,395 | $3,260 | $3,097 |
| | 3 | $ 3,496 | $ 3,390 | $3,329 | $3,261 |
| | Highest | $ 3,451 | $ 3,389 | $3,380 | $3,372 |
| Private 4-Year | Lowest | $10,083 | $ 5,821 | $5,028 | $3,876 |
| | 2 | $10,278 | $ 7,013 | $6,197 | $5,081 |
| | 3 | $10,579 | $ 8,441 | $7,768 | $6,903 |
| | Highest | $11,341 | $10,394 | $10,051 | $9,623 |
| Private 2-Year | Lowest | $ 6,500 | $ 3,984 | $3,405 | $2,738 |
| | 2 | $ 6,583 | $ 5,154 | $4,666 | $4,079 |
| | 3 | $ 6,702 | $ 5,860 | $5,391 | $4,890 |
| | Highest | $ 7,333 | $ 6,791 | $6,634 | $6,474 |
| Proprietary | Lowest | $ 7,882 | $ 6,112 | $5,068 | $4,010 |
| | 2 | $ 8,278 | $ 7,564 | $6,364 | $5,146 |
| | 3 | $ 8,290 | $ 7,996 | $6,973 | $5,951 |
| | Highest | $ 8,680 | $ 8,575 | $8,039 | $7,499 |

*Includes tuition, room and board, and other educational related costs.

SOURCE: Kirshstein and Cohen (1990).

students in these types of schools receive almost no Federal aid. In the private sector, however, Federal grants only contribute about 15 percent to total educational costs for the lowest income students. These students paid, on average, approximately $8,700 to attend a private four-year college or university. When all forms of financial aid are considered, the average net price drops to $5,821. Similar drops occur across all three definitions of net price.

Finally, the issue of actual "need" was examined for students who applied for Federal aid. By definition, need is the difference between educational costs and a calculated amount that the student and family are expected to contribute toward these costs. Federal aid meets a portion of need for students attending all types of postsecondary institutions. However, without aid from other sources, the poorest students would be left with large amounts of unmet need. In public four-year colleges and universities, for example, students from the lowest income background were left with almost $2,000 of unmet need after all Federal aid was deducted from costs. Aid from other sources reduced this need to slightly over $1,200. In private four-year colleges and universities, students from the lowest income families had an average of over $5,000 of unmet need after Federal aid was awarded. Aid from state and institutional sources reduced this unmet need to $2,067. While this reduction is considerable, $2,000 is still a substantial sum for low-income students to pay for their college educations.

This analysis of NPSAS data reveals that different forms of financial aid reduce the costs of college for students from all income backgrounds and in all types of schools. Poorer students receive the most financial assistance, yet financial aid also lowers college costs for middle- and even upper-income students. This is particularly the case in private four-year colleges and universities, which are awarding larger amounts of non-need-based financial aid from institutional resources. However, students are still meeting significant portions of their college costs on their own.

## Conclusion

The accessibility of a college or university education to a very large portion of high school graduates, regardless of financial resources, has become a hallmark of the American system of higher education. People are concerned about escalating tuitions because they fear that a college education may become unaffordable to many students. Findings in this chapter indicate that despite an increasing Federal financial aid budget and growing institutional aid in the private sector, families' out-of-pocket costs have been increasing.

The issues of the affordability of higher education raises a number of other important questions: Why did both the "sticker" and "net" prices of college increase in the 1980s? Will tuitions continue to escalate in the 1990s at rates similar to those in the past decade? What can be done to curb college costs so that higher education remains affordable to all students wishing to attend? These questions are addressed in the remainder of the report.

# CHAPTER IV

# EXPLANATIONS FOR RISING TUITIONS AND COSTS

*Determine specific causes of such changes in cost and the extent to which those causes have contributed to such changes.*

## Background

Rising tuitions are often explained as a logical consequence of increasing college expenditures. The premise of these explanations is that as colleges spend increasing amounts of money on a variety of items for a variety of reasons, colleges increase their tuitions. Some observers have focused their analyses on one or two areas in which college expenditures have risen, faculty salaries and administrative expenditures being cited frequently. Others speculate that expenditure growth has been the result of other factors affecting higher education institutions, ranging from higher utility rates to heightened demands for sophisticated computer and laboratory equipment. Moreover, shortfalls in revenues from other sources -- such as state funding for public institutions and voluntary to private colleges and universities -- have allegedly exacerbated the effects of rising institutional expenditures, thus putting pressure on tuitions.

However, fluctuations in college and university expenditures and revenues may not totally explain tuition levels. Although tuition and institutional expenditures both increased during the 1980s, many have questioned whether tuitions have risen <u>because</u> expenditures have increased. Instead, they argue that tuition and other attendance costs are shaped largely by students' and parents' perceived value of higher education and their willingness to pay for it. Like the explanations which attribute tuition increases to expenditure growth or revenue shortfalls, there are several variants of the "consumer demand drives tuitions" argument.

Howard Bowen (1980), for example, argues that colleges raise all the money they can, then spend all they have raised. The implication is that as long as there is sufficient demand for higher education, institutions can raise tuitions and spend the resulting revenue. Others have claimed that higher education institutions practice "prestige pricing" (Breneman in Streitfeld, 1988); that is, they raise tuitions to signal to students that the quality of their school is on par with other comparably priced schools.

Advocates of each of these explanations of rising tuition have found data to support their positions. Faculty salaries have increased throughout the 1980s, the administrative staffs of colleges and universities have expanded, and both college expenditures and tuitions have grown faster than many non-tuition sources of revenue to higher education institutions. At the same time, the demand for higher education at many institutions remains strong, despite growing tuition levels and a drop in the number of 18- to 24-year-olds, the traditional college population.

While the American public may seek definitive explanations for rising tuitions, and while many higher education analysts and observers have offered them, there is, in actuality, no single explanation. The report Trends in Institutional Costs, researched and written in response to the first two elements of the Congressional mandate on higher education costs, reaches this conclusion. A vast majority of institutional administrators indicated in a recent survey that each of the 12 factors listed as a possible influence on tuition increases had occurred at their institutions. Those factors most often cited as having the greatest effect on raising tuition ranged from growth in academic and operating expenditures, state tuition policy requirements, and a desire to improve the quality of the institution (Chaney and Farris, 1990). These responses suggest that there is no single explanation for the recent rise in college prices, but rather that a number of different factors are at work. A number of other recent reports on rising college costs reach the same conclusion (Hartle, 1986; Frances, 1990; Schenet, 1988; Hauptman, 1990).

Thus, to single out any one cause of tuition increases in all postsecondary institutions, or even to attempt to rank the various causes in order of importance, would oversimplify the complexity of higher education in the United States and the process by which tuitions are established and changed. Therefore, this chapter does not conclude with unambiguous support for any particular theory about why tuitions have risen. Rather, it explains several phenomena that have very likely contributed to higher education costs throughout the 1980s. The two principal groups of explanations examined are based on the notions that: (1) tuitions increase to cover rising institutional expenditures or to compensate for shortfalls from other revenue sources (i.e., budget-oriented explanations); and (2) institutions set tuition levels based on more demand-oriented criteria, such as what students are willing to pay to attend a given college.

## Budget-Oriented Explanations for Tuition Increases

There are many types of budget-oriented explanations for tuition increases. These explanations assume that tuitions have increased because expenditures have increased or the non-tuition revenue available to schools decreased. Most are premised on the assumption that expenditure levels drive tuition levels. Some of the specific explanations offered include:

- The prices of goods and services purchased by colleges and universities have risen faster than inflation.
- Colleges have been spending money on new types of products and services, or purchasing more of them.
- Physical plant repair and maintenance have increased, requiring additional institutional expenditures.
- Faculty compensation costs have risen.
- Administrative staffs have expanded.
- Institutions' student financial aid budgets have grown.

- Institutions have incentive to raise tuitions to maximize revenue from Federal student aid funds.
- Institutions have experienced shortfalls from other revenue sources.
- Changes in enrollment have resulted in increased institutional expenditures.

Each of these explanations is discussed below.

**The prices of goods and services purchased by colleges and universities have risen rapidly.** Undoubtedly, college and university expenditures have risen in the last 15 years. Between 1975-76 and 1985-86, total educational and general (E & G) expenditures per full-time equivalent student at public institutions increased 19 percent in real terms, from $6,394 to $7,629 (in constant 1985-86 dollars)[6]. Almost all this growth occurred between 1980-81 and 1985-86, when E & G expenditures grew from $6,463 to $7,630 per FTE student, or 18 percent. In the private sector, real E & G expenditures also rose 19 percent between 1975-76 and 1985-86, from $9,330 to $11,098 per FTE student. In the first half of this period, E & G expenditures at the average private sector institution had actually decreased slightly (2 percent) in real terms before increasing sharply (21 percent) in the early 1980s (Kirshstein *et al.*, 1990). Figures IV-1 and IV-2 chart growth in E & G expenditures in public and private institutions, respectively.

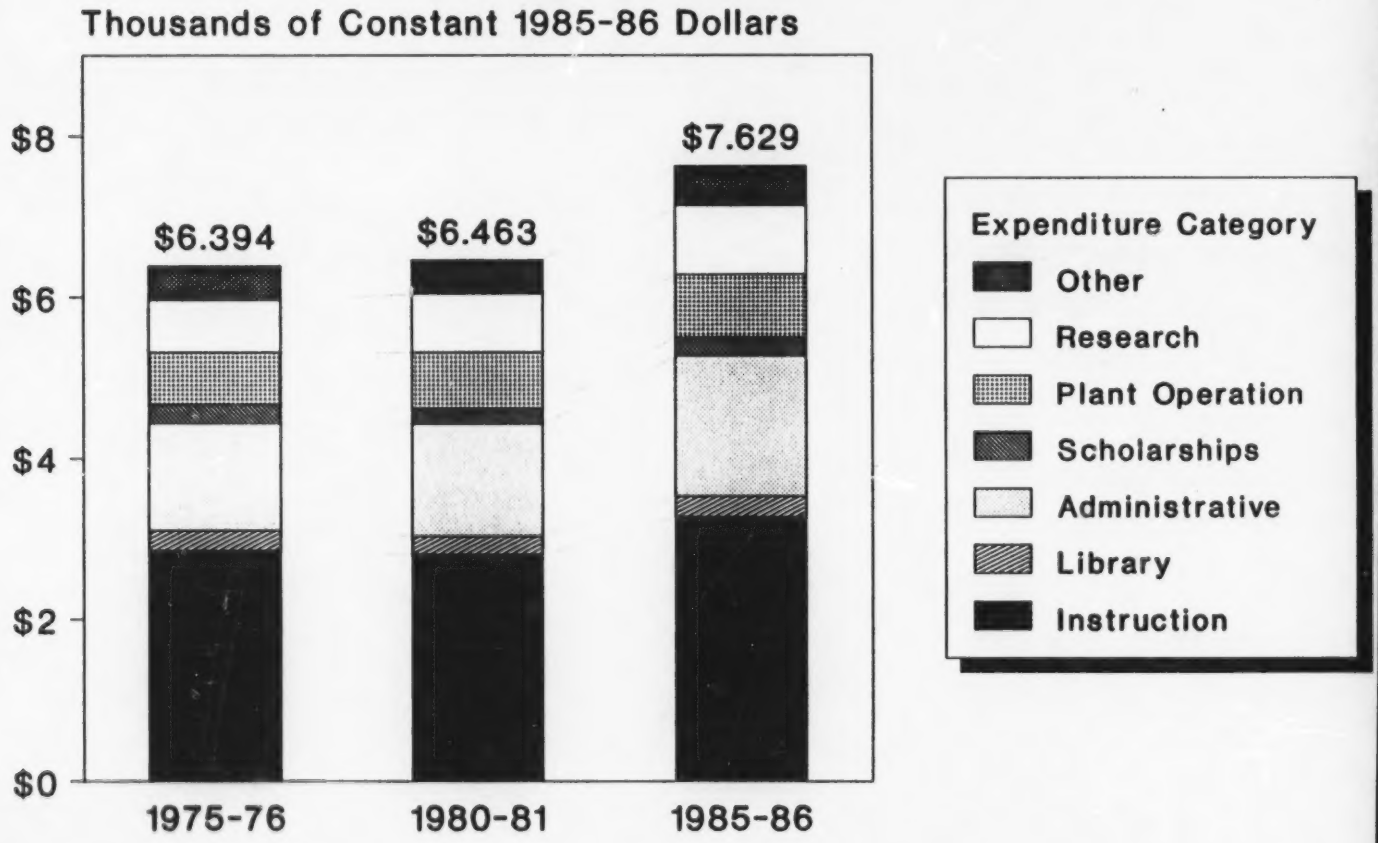
These figures not only reveal growth in total per-student E & G expenditures at higher education institutions but also show the relative share of spending represented by each major budget category. Despite significant differences in revenue sources, public and private higher education institutions share very similar expenditure patterns. In both sectors, spending on

---

[6] Annual expenditure and revenue data from U.S. higher education institutions were collected from the mid-1960s until 1985 through the Higher Education General Information Survey. These data pertain to two- and four-year public institutions and two- and four-year private non-profit institutions, but not proprietary schools. Subsequent to 1985, comparable expenditure and revenue data have been collected for all postsecondary institution types, including proprietary schools, through the Integrated Postsecondary Educational Data System. However, most of these data have not yet become available to the public.

Figure IV-1

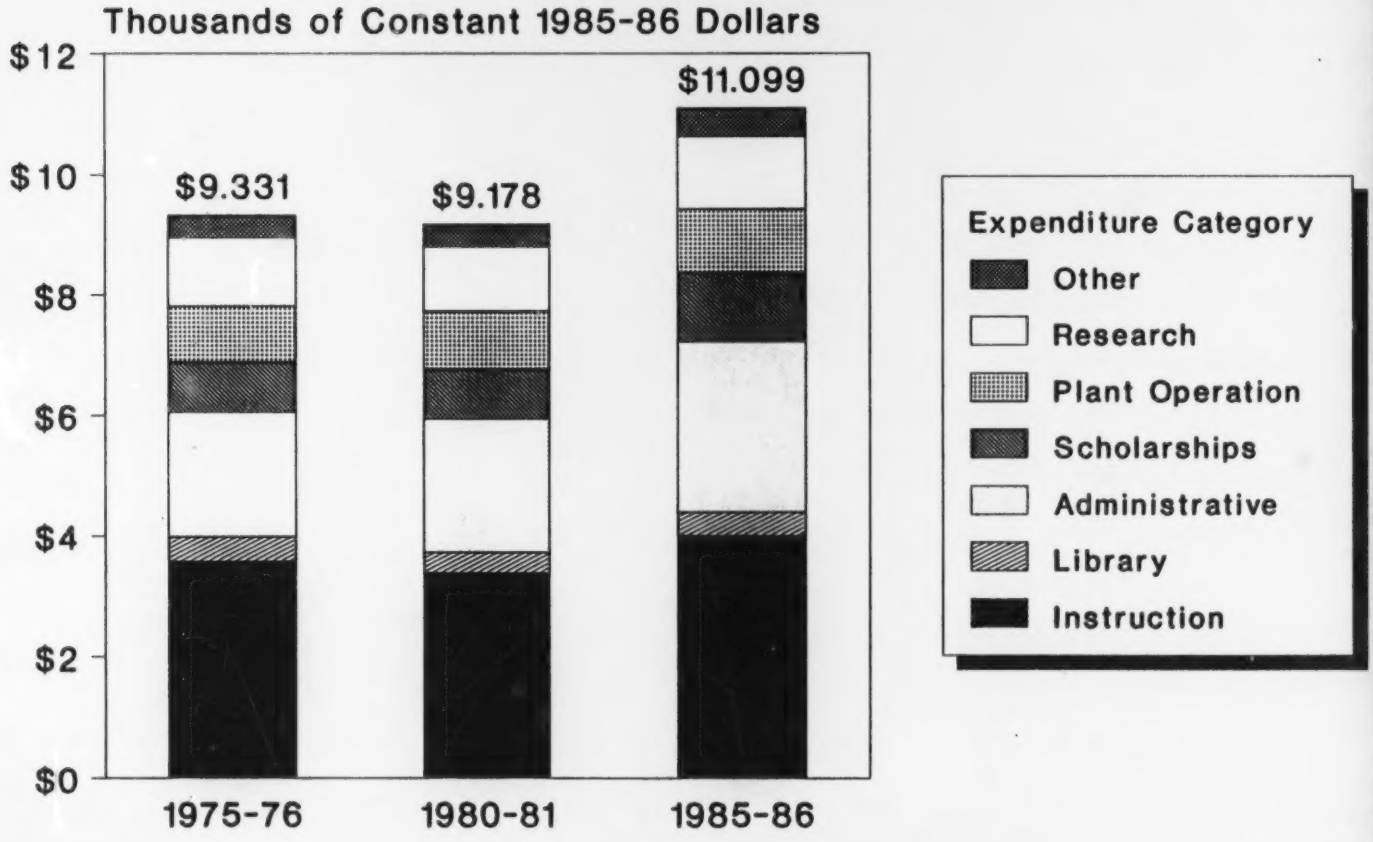
# E & G Expenditures per FTE Student Public Institutions




Source: HEGIS.

Figure IV-2

# E & G Expenditures per FTE Student Private Institutions




Source: HEGIS.

instruction typically represents the largest expenditure category: 43 percent of public institutions' E & G spending and 36 percent of private institutions' E & G spending in 1985-86. The other principal academic category is library-related expenses; these represent a much smaller portion of expenses, only 3 to 4 percent of E & G expenditures in each sector. Administrative expenses, the second largest budget item in both sectors, grew faster than academic spending between 1980-81 and 1985-86. By the latter year, administrative expenditures represented approximately 23 percent of E & G expenditures in public institutions and 25 percent in private institutions. Plant operation and research expenditures each accounted for about 10 percent of E & G expenditures in both sectors. The largest difference between the two sectors appears in the scholarship or institutional financial aid category. In 1985-86, scholarship expenses represented 10 percent of E & G expenditures at private institutions but only about 3 percent of E & G expenditures at public institutions.

Colleges and universities insist that higher E & G expenditures in many spending areas have been necessary to maintain the quality of education. In part, institutional expenditures increased in real terms because the prices of products and services typically purchased by colleges and universities increased faster than inflation, as measured by the CPI. As its name suggests, the Consumer Price Index measures how prices have risen for a typical consumer; therefore, food and clothing costs, for example, play an important role in determining changes in the CPI from one year to the next. For colleges and universities, though, changes in other prices, such as faculty salaries, have a much greater impact on institutional spending (Berger, 1988; CASE, 1987). Thus, faster-than-inflation expenditure growth does not necessarily mean that higher education institutions are buying any more or better goods and services than they did in the past, or that they are managing their money any worse.

Differences between expenditure or tuition growth and inflation may instead reflect particularly rapid increases in the costs of products and services purchased by universities. Faculty compensation, the principal component of instructional expenditures, did rise much faster than inflation in the 1980s. The price of library materials also skyrocketed, particularly during the latter half of the 1980s. Changes in the costs of many goods and services purchased by colleges and universities are reflected in the Higher Education Price Index (HEPI).[7] Figure IV-3 shows the dramatic differences between changes in the CPI to changes in the prices of books and materials, contracted services, supplies and materials, equipment, and utilities, as measured by the respective HEPI subindices.

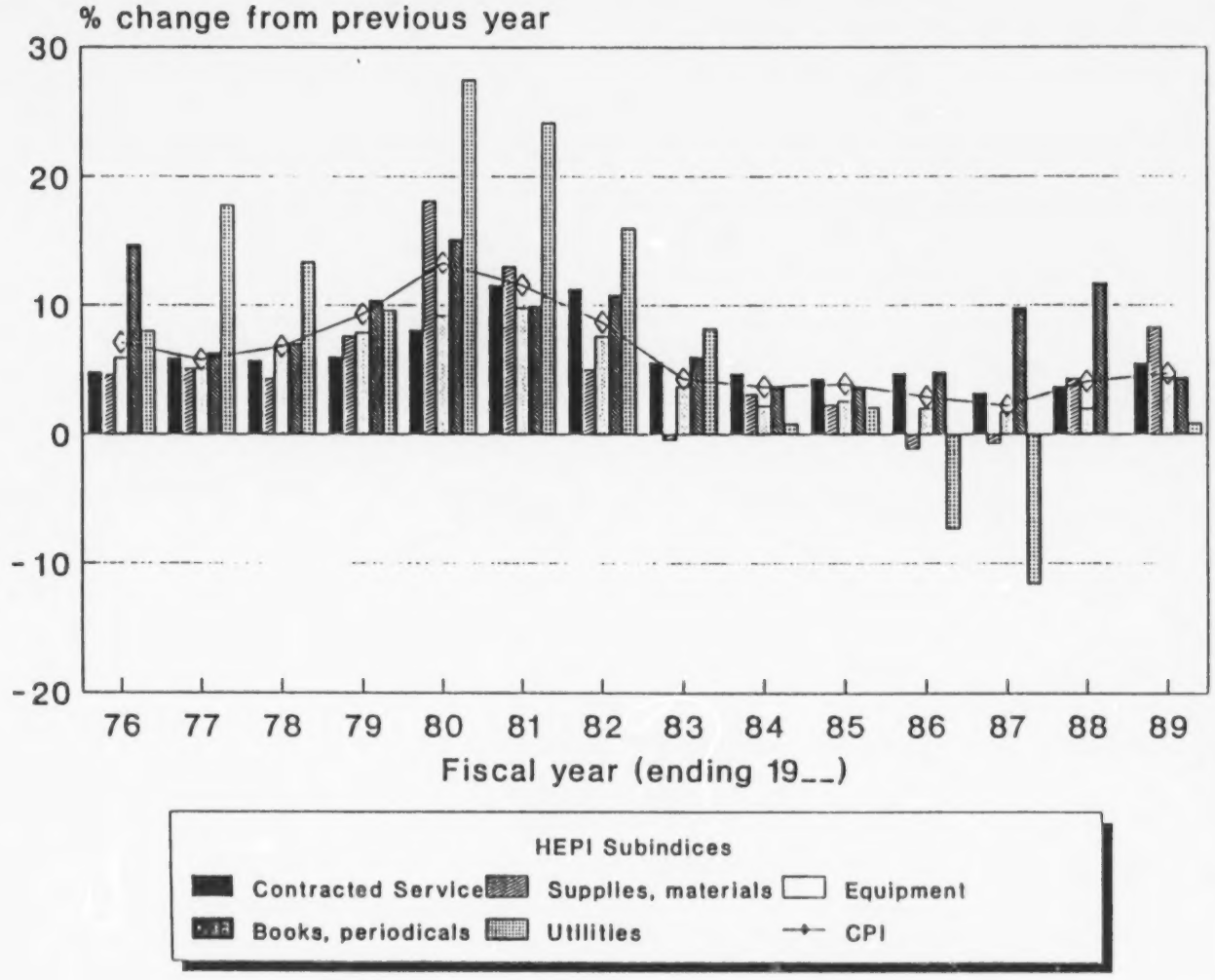
**Colleges have been spending money on new types of products and services, or purchasing more of them.** Higher education institutions' expenditures have also increased as a result of additional types and quantities of certain goods and services purchased. Changes in technology and the expectations of students, families, and future employers constantly redefine what constitutes a "quality" education. Ultimately, changing conditions and expectations can affect how much of what goods and services higher education institutions buy. For example, as computers have rapidly become an indispensable part of the business and scientific communities, they have also become integral components of many college courses -- ranging from journalism to the natural sciences. To adapt to these trends, colleges and universities have spent large sums of money to update, expand, and improve their computing equipment. Ironically, unlike many items purchased by colleges and universities, the per-unit cost of many types of computer equipment

---

[7]Between 1980 and 1987, the HEPI grew at the average annual rate of seven percent, about two percentage points above the general rate of price inflation. One possible problem with using the HEPI, though, is that some of its key components -- most notably, employee compensation -- are not externally determined (by the market), but rather are shaped largely by the individual buyer -- a higher education institution.

Figure IV-3

## Changes in CPI and Subcomponents of Higher Education Price Index




Soure: Research Associates of Washington, Higher Education Price Indices, 1989 Update, Tables 1 and 2A.

and supplies has dropped. However, the tremendous increase in quantities purchased far outweighs the price drop. In a 1988 survey of higher education coordinating and governing boards, respondents ranked equipment and computer costs to be of "high" concern more often than any other cost category (Brinkman, 1988). In another recent survey of higher education institutions, more than half of all higher education institutions responding reported that expenditures on computing equipment and facilities and administrative computing had risen faster than inflation during the 1980s (Chaney and Farris, 1990).

**Physical plant repair and maintenance have increased, requiring additional institutional expenditures.** Several reports calculate the cost of repairing or replacing damaged facilities on campuses at billions of dollars (Helpern, 1987; National Association of College and University Business Officers and Association of Physical Plant Administrators of Colleges and Universities, 1989). Although data on institutions' capital expenditures do not indicate that colleges and universities have increased expenditures to improve the situation, ignoring needed repairs may exacerbate the problem and make the eventual reckoning more expensive for institutions. (The prospect of increased expenditures on plant operation and maintenance in the future is discussed further in Chapter V.)

**Faculty compensation costs have risen.** Because higher education is labor-intensive, staffing decisions have major consequences for both the quality of education and the cost of providing it. Instructional costs alone -- most of which consist of faculty salaries and benefits -- comprised approximately 43 percent of all E & G expenditures in public institutions in 1985-86 and 40 percent of all E & G expenditures in private institutions in the same year. Moreover, within higher education there are limited opportunities for the kinds of productivity increases due to technological advances that help to reduce labor costs in other types of industries (CASE, 1987). For example, despite the availability of technology to videotape classroom lectures, there

was only slight change in the ratio of full-time faculty to FTE students at the nation's colleges and universities between the mid-1970s and mid-1980s (Kirshstein *et al.*, 1990).[8]

Not only the numbers of faculty but also their salary levels can have profound effects on institutions' finances. Although significant salary differences persist across disciplines, institution types, and geographic regions, faculty salaries in general have been increasing faster than inflation throughout the 1980s. Between 1980-81 and 1989-90, for example, the average full professor's salary increased 19 percent in real terms. (Table IV-1 traces real growth in faculty salaries between 1975-76 and 1989-90.) Faculty benefits grew considerably during this period, as well -- from 18 percent of salary in 1980-81 to 23 percent of salary in 1989-90 (Kirshstein *et al.*, 1990).

Faculty salary increases in the 1980s, however, followed a long period of real salary declines in the 1970s. Many educators point out that faculty salaries have still not caught up with their real value in the early 1970s (Thrift, 1987; Kasper, 1989) and that they have grown more slowly than salaries in many other professions (Hansen and Guidugli, 1990; U.S. Department of Education, 1989). Despite the rapid growth in faculty salaries during the 1980s, salaries in 1989-90 were about the same, in real terms, as in 1975-76 -- when real faculty salaries had already begun to slip from their peak a few years earlier. (See Table IV-1.) Critics, on the other hand, charge that faculty are overpaid and underworked (Iosue, 1988; Sykes, 1988).

Furthermore, over the past twenty years or so, the average and median ages of faculty members have been creeping up. As the professoriate has "aged," an increasing proportion of faculty members have assumed senior, and hence the most highly paid, faculty positions. Between 1975-76 and 1987-88, for example, full professors grew from 28 to 35 percent of full-time faculty,

---

[8] In the public sector, the ratio of FTE students to full-time faculty dropped slightly from 19.94 to 19.00 between 1975-76 and 1985-86. In the private sector, the ratio of FTE students to full-time faculty increased slightly from 12.70 in 1975-76 to 13.12 in 1985-86 (U.S. Department of Education, 1989).

## TABLE IV-1

### Full-time Faculty Salary Growth (in Constant 1989-90 Dollars)

| | Professor | Associate Professor | Assistant Professor | Instructor |
|---|---|---|---|---|
| 1975-76 | $53,078 | $39,864 | $32,752 | $26,517 |
| 1980-81 | $45,151 | $34,290 | $27,761 | $22,159 |
| 1985-86 | $49,485 | $37,026 | $30,552 | $23,694 |
| 1989-90 | $53,540 | $39,590 | $32,970 | $24,890 |
| % CHANGE | | | | |
| 1975-76 to 1980-81 | -15% | -14% | -15% | -16% |
| 1980-81 to 1985-86 | 10% | 9% | 10% | 7% |
| 1985-86 to 1989-90 | 8% | 7% | 8% | 5% |

Source: The Annual Report on the Economic Status of the Profession: 1989-1990, p. 13.

The Annual Report on the Economic Status of the Profession: 1985-1986, p. 9.

The Annual Report on the Economic Status of the Profession: 1980-1981, p. 5.

The Annual Report on the Economic Status of the Profession: 1975-1976, p. 208.

while assistant professors decreased from 33 to 25 percent of full-time faculty (American Association of University Professors, 1976, 1988). The combination of higher faculty compensation levels generally and a disproportionate number of faculty at the highest paid rank has fuelled growth in instructional expenditures, which increased 17 percent (real) in the public sector and 18 percent (real) in the private sector between 1980-81 and 1985-86. Many individuals and institutions in the higher education community anticipate faculty shortages in several fields when the current group of senior faculty retires (Bowen and Sosa, 1989; Bowen and Schuster, 1986). If such shortages materialize, competition among institutions for faculty may increase and bid up faculty expenditures further.

**Administrative staffs have expanded.** Administrative expenditures have grown even more rapidly than instructional expenditures. Between 1980-81 and 1985-86, these expenditures increased, in real terms, by 25 percent in public institutions and 28 percent in private institutions. As a result of this growth, administrative expenditures grew from 22 to 23 percent of total E & G expenditures in the public sector between 1980-81 and 1985-86, and from 24 to 25 percent of total E & G expenditures in the private sector over the same interval (Kirshstein *et al.*, 1990).

Increases in institutions' administrative expenditures can be attributed in part to changes within U.S. higher education. Institutions have invested considerable amounts of money in new types of services and facilities to accommodate developments in technology, scholarship, students' expectations, and legislation. In many cases, the new additions to college campuses require personnel to administer or operate them. For example, the expansion of computers into many areas of higher education has often been accompanied by the arrival of increased numbers of computer programmers and technicians. According to a recent survey (Chaney and Farris, 1990), administrative computing was among the three non-academic expenditure categories reported to have the largest effect on expenditures. This response was given by 27 percent of respondents.

Another common response (indicated by 29 percent of respondents) was marketing and recruiting costs, also a labor-intensive administrative spending area.

Hansen and Guidugli (1990) have pointed out that many non-teaching staff positions on college and university campuses have been created to perform a number of very different responsibilities, most of which are relatively new to higher education institutions:

> Expanded student financial aid programs required additional staff; remedial programs demanded specialized personnel; the legal issues arising from the beginning of the 'litigious [sic] age' necessitated the hiring of full-time lawyers; affirmative action programs called for specialists to handle the paperwork and related activities; and increased scrutiny by federal agencies, state government offices, and other groups greatly enlarged the administrative burdens of virtually all postsecondary institutions. Dealing with these matters required hiring additional, nonfaculty personnel. This response not only opened up new positions but was accompanied by the growing professionalization of college and university administrators (pp. 143-144).

Data collected by the U.S. Equal Employment Opportunity Commission document growth in the number of individuals employed in various job categories at colleges and universities. These data reveal that between 1975 and 1985, both of the fastest growing categories consisted primarily of administrative positions. The "Other Professionals" category grew the fastest -- over 60 percent, or 100,000 people -- and includes employees in academic support, student services, and institutional support positions that require a college degree or equivalent experience. Examples of such positions are accountants, coaches, counselors, lawyers, librarians, and systems analysts. "Executive, Administrative, and Managerial Employees" comprised the next fastest growing category of higher education institutions' staffs, growing 18 percent (more than 18,000 people); included in this category are institution presidents, vice presidents, deans, directors, and other managers. (See Table IV-2.)

A recent study comparing growth in the salaries of higher education faculty and administrators reveals that the real value of administrators' salaries, like those of faculty, declined between 1970-71 and 1980-81, then increased somewhat between 1980-81 and 1984-85. However,

administrative salaries did not, on average, decline quite as much as faculty salaries during the 1970s; and during the early 1980s, administrative salaries increased slightly faster than faculty salaries overall, though this finding varied by discipline (Hansen and Guidugli, 1990).

In the same study, comparisons of administrator and faculty salary levels to salaries in other professions reveal that salaries for both groups of higher education employees declined more in real terms during the 1970s than all the other occupation categories listed. Between 1980-81 and 1984-85, only the salaries of Federal civilian employees grew slower (2.2 percent) than faculty salaries (5.9 percent). The average salary in most other occupation categories grew at least as fast as administrator salaries during this period (7.4 percent) (Hansen and Guidugli, 1990). (See Table IV-3.)

**Institutions' student financial aid budgets have grown.** Throughout the 1980s, institutions have dramatically increased expenditures on student aid. As noted in Chapter II, the Federal government provides the largest portion of student financial aid, primarily through need-based loans and grants. However, throughout the 1980s, financial aid funded by institutions has risen sharply -- even after adjusting for inflation. The College Board estimates that between 1980-81 and 1987-88, total institutional financial aid grew from $2.8 billion to $4.6 billion in constant 1988 dollars, or 66 percent (The College Board, 1988).

More than half of all institutional funding of student financial aid during the 1980s came from private institutions, although they enroll only one-fifth of all postsecondary students (Hauptman, 1990).[9] Thus, it is not surprising that in a recent survey, 47 percent of respondents

[9]Although public institutions offer less institutionally funded financial aid to their undergraduate students, tuitions at public institutions are heavily subsidized through large state appropriations to the institutions. A further discussion of state financing of public higher education is included in Sherman, Tikoff & Masten, 1990.

## TABLE IV-2

### Staff Changes at Colleges and Universities, 1975-1985

| | 1975 | 1985 | Percent Change |
|---|---|---|---|
| Other professionals | 166,487 | 268,225 | +61.1% |
| Executive, administrative, and managerial employees | 102,465 | 120,585 | +17.9% |
| Technical, paraprofessional staff | 113,248 | 129,913 | +14.7% |
| Skilled crafts people | 51,370 | 58,019 | +12.9% |
| Secretarial, clerical employees | 302,216 | 330,196 | + 9.2% |
| Full-time faculty members | 446,830 | 473,537 | + 5.9% |
| Service, maintenance personnel | 205,790 | 196,612 | - 4.9% |
| Total | 1,388,406 | 1,577,087 | +13.6% |

Full-time employees at approximately 3,000 U.S. colleges and universities.

SOURCE: U.S. Equal Employment Opportunity Commission.

## TABLE IV-3

### Percentage Changes in Average Real Salaries of Higher Education Administrators and Faculty Members, and in Average Real Salaries or Earnings of Other Comparison Groups, 1971-72 to 1984-85

| Line | Comparison Group | 1971-72 to 1980-81 | 1980-81 to 1984-85 | 1971-72 to 1984-85 |
|---|---|---|---|---|
| 1. | Administration | -19.1 | 7.4 | -13.1 |
| 2. | Faculty members | -21.8 | 5.9 | -16.0 |
| 3. | Private sector equivalents to faculty and administration | -5.8 | 8.0 | 1.7 |
| 4. | All domestic industries | -8.9 | 4.4 | -4.7 |
| 5. | State and local government education | -15.7 | 7.3 | -9.5 |
| 6. | State and local government noneducation | -12.9 | 9.3 | -4.8 |
| 7. | Federal civilian government | -14.7 | 2.2 | -12.8 |
| 8. | All government | -12.4 | 8.0 | -5.4 |

**Sources:**

Administrators: *Administrative Compensation Survey*, College and University Personnel Association. Washington, D.C., 1971-72, 1980-81, and 1984-85 reports. Administrator salary changes are based on CPI-adjusted percentage changes in salary levels for all institutions, obtained by weighting the percentage changes in salary levels by the numbers of administrators in each position in the base year for each comparison period.

Faculty Members: "Economic Status of the Profession," *ACADEME: Bulletin of the American Association of University Professors*, American Association of University Professors. Washington, D.C. 1971-72, 1980-81, and 1984-85 reports. Faculty salary changes are based on CPI-adjusted annual percentage changes in salary levels for institutions reporting comparable data from one year to the next, for All Ranks combined, for All Categories combined.

Consumer Price Index: Council of Economic Advisers, *Economic Report of the President, 1985*, U.S. Government Printing Office.

NOTE: All salaries were adjusted by the Consumer Price Index converted to an academic-year basis. See Committee Z. Reports of AAUP for more details.

Taken from: Hansen, W. Lee and Guidugli, Thomas F. "Comparing Salary and Employment Gains for Higher Education Administrators and Faculty Members," Journal of Higher Education, Vol. 61, no. 2 (March/April 1990), pp. 142-159.

from private higher education institutions reported that increases in institutional student aid had a great impact on tuition increases, compared to only 4 percent of public institutions (Chaney and Farris, 1990).

Between 1980-81 and 1987-88, institutionally funded aid to undergraduate students at private institutions increased 87 percent in real terms, from $1.25 million to $2.33 million. The percentage of undergraduates receiving aid rose from 44 to 53 percent between 1970-71 and 1980-81, and to 59 percent by 1987-88. Moreover, the average award amount increased from $1,465 to $1,536 between 1970-71 and 1980-81, then nearly doubled to $2,832 by 1987-88 (NIICU, 1990).

The dollar amounts of institutional financial aid in private institutions have grown faster than both inflation and tuition increases. Institutional financial aid has also grown as a percentage of these institutions' educational and general expenditures. Between 1970-71 and 1980-81, private institutions' financial aid expenditures grew slightly from 9 to 10 percent of E & G undergraduate expenditures, then rose sharply to 14 percent by 1987-88 (NIICU, 1990). In fact, between 1980-81 and 1985-86, the "scholarship" category of E & G expenditures rose faster than any other expenditure category in private institutions (37 percent per FTE student in real terms). (In public institutions, scholarship expenditures increased 17 percent per FTE student over the same interval.)

Some have suggested that institutions have financed institutional aid by playing "Robin Hood". These critics argue that colleges and universities fund financial aid budgets largely through high tuition revenues that only the wealthiest students pay in full, and subsequently "discount" tuition levels for students with need (Fiske, 1987; Martin, 1988).

**Institutions raise tuitions to maximize revenue from Federal student aid funds.** Others have accused institutions of raising tuitions not only to cover expenditures, but also to maximize

the amount of funds they would ultimately receive from Federal financial aid programs. They assert that since many Federal aid programs are based on need -- essentially the difference between what an institution charges and an expected family contribution (based on a family's income, assets, and other characteristics) -- institutions can raise tuition revenue without having to worry about students balking at the price, since Federal aid will insulate them from the price increase.

However, several pieces of evidence suggest that this is not the primary motivation for tuition increases, at least not uniformly across all postsecondary institutions. First, slightly less than half (46 percent) of all undergraduate students received any financial aid in 1986, and only 35 percent received Federal aid in that year (U.S. Department of Education, 1988). Therefore, Federal aid would, at the most, buffer only about a third of all undergraduates from tuition increases. Second, Federal aid increased most in the 1970s, when real tuition growth was slow, but has been largely unresponsive to tuition increases throughout the 1980s. In a number of programs, the average aid amount awarded has grown closer and closer to the maximum award amount, suggesting that increasing numbers of students are already receiving as much aid as they can. Once students have reached this maximum award amount, further increases in tuition do not affect aid levels. Third, a recent report indicates that a change in college charges is only weakly correlated to changes in the amounts of Federal aid disbursed and argues that student aid availability is not likely to be a principal contributor to rising college tuitions (Hauptman, 1990).

The same study, however, notes that proprietary school tuitions may be more related to the availability of Federal financial aid than tuitions in other sectors (Hauptman, 1990). Moreover, a much larger portion of proprietary school students receive Federal aid (about 80 percent) than do students attending other higher education institutions (35 percent) (U.S.

Department of Education, 1988). Therefore, these institutions may be more inclined to set tuitions to maximize Federal student aid.

**Institutions have experienced shortfalls from other revenue sources.** Many institutional administrators and higher education advocates argue that upward pressure on tuitions has been heightened by slow growth or declines in contributions from other revenue sources. Many private institutions insist that increased funding of institutional aid has been prompted by the desire to continue to promote access as the percentage of college costs covered by Federal financial aid has declined (Thrift, 1987).

According to a recent survey, 29 percent of administrators of private higher education institutions reported that a decrease in the proportion of Federal funding had a great impact on tuition increases, compared to only 5 percent of public institution administrators who reported a great impact (Chaney and Farris, 1990). Among public institutions, the two factors most frequently cited as affecting tuition increases were state tuition policy requirements (reported by 50 percent of survey respondents from public institutions to have a great impact) and a decrease in the proportion of state/local funding (43 percent) (Chaney and Farris, 1990). These findings are not surprising, since the average public higher education institution depends on state and local government appropriations for more than half of all general education revenues.

In many states, the condition of the economy and competing demands from other government funding areas have resulted in slow growth in these appropriations. As a result, public higher education systems in many states have relied increasingly on tuition to generate revenue and balance budgets. Between 1975-76 and 1985-86, tuition revenues increased much faster than government appropriations in the average public four-year college and university, though they increased slightly slower than appropriations in public two-year institutions (see Table IV-4). Over the same interval, tuitions in the average public higher education institution (including four-year colleges and universities as well as two-year institutions) grew from 16 to 18

percent of general education revenues, while government appropriations decreased from 62 to 61 percent of general education revenues.

**Changes in enrollments have resulted in increased expenditures.** Many have argued that demographic changes in the composition of postsecondary students have resulted in increased costs. Despite predictions in the 1970s that enrollments would drop over the next twenty years (Cartter, 1976; Freeman, 1976), such declines did not occur. Aggressive -- and expensive -- marketing strategies to attract nontraditional students are often cited as one reason why institutions were able to maintain level enrollments.

The composition of enrollments, however, indicates that student populations have changed rather dramatically since the early 1970s. Part-time students, women, and older students all increased as a percentage of total enrollments between 1970 and 1985. (See Table IV-5.) Such changes in the composition of the college student population could have many different effects on costs. If college and university campuses are now populated with larger numbers of part-time students, women, and older students, different services may well be needed. Each of these types of students brings to the campus different concerns which colleges now find themselves addressing. Part-time students, for example, often cannot attend classes during the day, and need class schedules to accommodate their work and family lives. Part-time students may also utilize institutional services beyond those reflected in the tuition they pay. For example, whether a student enrolls in one course or takes a full course load, registrar services are needed to maintain records on the student. In fact, the effort to register a student in one course is not considerably less than the effort to enroll a student in five courses.[10]

---

[10]The standard calculation of a full-time equivalent student equates three part-time students with one full-time student. It has been suggested that this formula does not accurately reflect the services used by part-time students and their costs to colleges and universities. Given the presence of large numbers of part-time students on college campuses today, the true cost of these students may be underestimated in standard FTE calculations.

## TABLE IV-4

### Changes in Tuition and Government Appropriations at Public Higher Education Institutions

| Institution Type | Percentage change 1975 to 1985 Tuition | Appropriations |
|---|---|---|
| University | 37.2% | 16.7% |
| Four-year college | 34.3% | 16.5% |
| Two-year college | 19.6% | 21.4% |

Source: HEGIS.

## TABLE IV-5

### Trends in Enrollment Composition: 1970-71 to 1985-86

| YEAR | TOTAL ENROLLMENT | PERCENT PART-TIME | PERCENT WOMEN | PERCENT 25 & OLDER |
|---|---|---|---|---|
| 1970 | 8,580,887 | 32% | 41% | 28% |
| 1971 | 8,948,644 | 32% | 42% | |
| 1972 | 9,214,860 | 34% | 43% | |
| 1973 | 9,602,123 | 36% | 44% | |
| 1974 | 10,223,729 | 38% | 45% | |
| 1975 | 11,184,859 | 39% | 45% | 37% |
| 1976 | 11,012,137 | 39% | 47% | |
| 1977 | 11,285,787 | 40% | 49% | |
| 1978 | 11,260,092 | 41% | 50% | |
| 1979 | 11,569,899 | 41% | 51% | |
| 1980 | 12,096,895 | 41% | 51% | 37% |
| 1981 | 12,371,672 | 42% | 52% | |
| 1982 | 12,425,780 | 42% | 51% | |
| 1983 | 12,464,661 | 42% | 52% | |
| 1984 | 12,241,940 | 42% | 52% | |
| 1985 | 12,247,055 | 42% | 52% | 42% |
| 1986 | 12,500,798 | 43% | 53% | |
| 1987 | 12,544,000 | 42% | 53% | |

SOURCE: Digest of Education Statistics, 1988, pp. 142-143.

Enrollment of nontraditional students has helped to offset the predicted decline in college enrollments and has facilitated access for many groups of people who had traditionally been excluded from higher education (Lederman, Ryzewic, and Ribaudo, 1983). The presence of non-traditional students on college campuses has also, in many instances, required institutions to alter their *modus operandi* or offer additional services. For example, as higher education institutions opened their doors to educationally disadvantaged students, the incidence and importance of remedial education on college campuses grew. A national study conducted in 1983 found that 30 percent of first-time college students were academically deficient, and a U.S. Department of Education survey found that, at a minimum, 25 percent of college freshmen in 1983-84 took at least one remedial course in a basic skill area (reading, writing, or mathematics). In 1984, four out of five colleges offered some sort of remedial courses (U.S. Department of Education, 1985).

The increase in remedial courses and other enrollment-related changes have also affected higher education expenditures. Twenty-one percent of institutional administrators reported that an increase in the cost of remediation programs for entering students had a great impact on increasing institutional expenditures. Changes in the percentage of part-time students were reported by 14 percent of administrators to have had a great impact on expenditures. However, such responses were not uniform across all institution types; two-year institutions were much more likely than four-year institutions to consider the effect of both these enrollment changes on expenditures to be great (Chaney and Farris, 1990).

Although enrollments did not decline in the 1980s as predicted, neither did they expand as they had in the 1970s. A recent study on rising college costs has attributed increasing costs per FTE student in the 1980s to the lack of enrollment growth during this period. This study found that aggregate expenditures grew faster than expenditures per FTE student during periods of enrollment growth due to the ability of institutions to spread their costs over an increasing student

population. In the 1980s, college enrollments leveled and institutions were not able to spread their increasing costs over more students (Hauptman, 1989).

In another report, similar findings emerged. Comparing expenditure growth patterns with enrollment growth patterns, total E & G expenditures (per student) were found to increase fastest in schools with enrollment declines and slowest in colleges and universities with enrollment growth. This pattern held for both public and private institutions (Kirshstein *et al.*, 1990). (See Figure IV-4.)

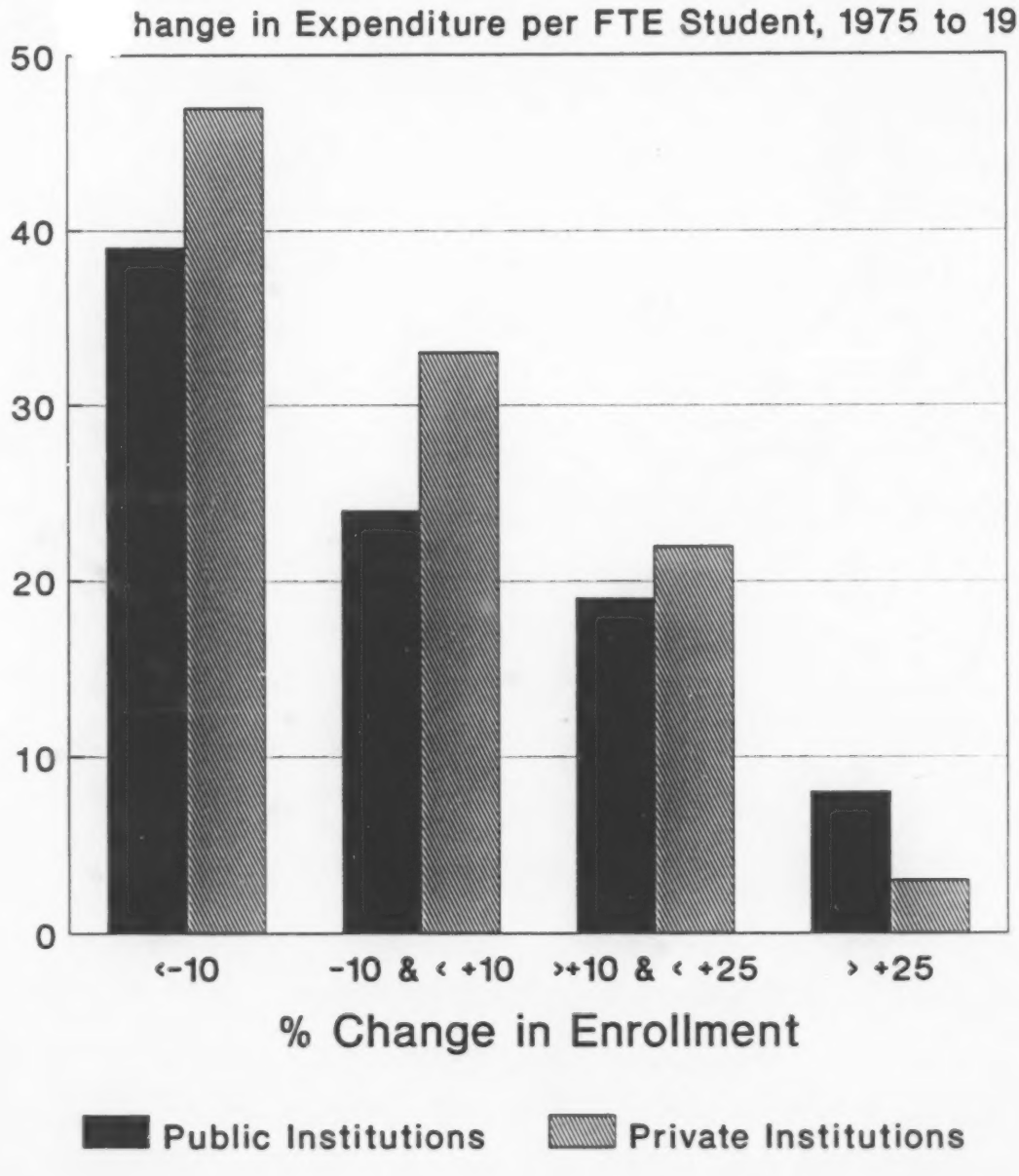
## Demand-Oriented Theories of Tuition Growth

The explanations for tuition increases presented thus far assume that tuition increased because institutions needed additional tuition revenue either to cover higher costs or to compensate for shortfalls from other revenue sources. However, these explanations fail to account for the effects of student demand for higher education and the willingness of students and their families to pay for a college education.

Demand for higher education depends on both the number of potential students and the amount of money that students and families are willing to pay. What a given institution can charge will depend on many factors, including perceptions of the benefits of attending a particular school. Benefits may include access to graduate school and earnings subsequent to college graduation, as indicated by the experiences of earlier graduates.

Educational quality is another feature that shapes demand for higher education. Quality, however, is difficult to measure objectively. The facilities and services that schools provide are among those elements that appear to determine students' and families' perceptions of institutional quality (Bradburd and Mann, 1990). According to a recent survey of high-ability high school students, a large variety of programs, faculty who spend as much time on teaching as on research, advanced laboratory equipment and libraries, and many small classes are among those institutional

## Figure IV-4
### Enrollment and Expenditure Growth




Source: HEGIS

characteristics which students and their families believed to be indicative of college quality (Litten and Hall, 1989).

Offering students the facilities and services that they equate with quality is one mechanism institutions may use to attract students. To cover the costs of these desired facilities and services, institutions may raise tuition. If a number of institutions adopt this strategy, the ensuing competition for students will generate upward pressure on tuition at each school. These tuition increases would result from institutions choosing to raise and spend additional money, rather than from changes in costs or revenues.

Another factor affecting students' demand for college is the increase in earnings college graduates enjoy relative to other individuals. If the economic prospects for college graduates (or graduates from certain types of schools) improve, then students may be willing to pay higher tuitions if the expected increases in earnings are greater than increases in tuition. Recent research suggests that the wage benefits of attending college increased sharply in the 1980s after declining through the 1970s (Katz and Murphy, 1990). In the mid 1970s, the income gap between high school graduates and college graduates hovered between 15 and 20 percent. However, in the 1980s, this gap began to widen; by 1986, the income gap for men had grown to 49 percent (Vobejda, 1989). This added rate of return increases the demand for higher education, which in turn allows institutions to raise their prices.

This heightened demand and resulting price increases are particularly visible at those colleges and universities which charge some of the highest tuitions. Many of these are prestigious institutions where students compete for a limited number of enrollment slots; some offer admission to fewer than 20 percent of all their undergraduate applicants. Recent research has indicated that students attending some of the more prestigious -- and expensive -- higher education institutions do earn higher incomes after graduation than students who attended less prestigious schools (James *et al.*,

1989). Another study indicates that institutions charging tuition and fees in excess of $10,000 a year experienced a steady increase in applicants throughout the 1980s. This occurred despite the fact that tuitions at these schools are not only higher than those of other colleges and universities, but also increased more rapidly than at other types of institutions (Sherman and Cohen, 1990a).

Recently, concern has been expressed that some institutions may be taking advantage of consumers' high level of demand for higher education by acting in concert to set tuition and financial aid levels in violation of Federal antitrust laws. This allegation is the subject of an ongoing investigation by the United States Department of Justice. Among the colleges and universities being investigated are several groups of high-profile institutions that allegedly share financial data prior to announcing tuition levels. The Department of Justice is also investigating the alleged practice of institutions coordinating financial aid awards to students who have applied to and been accepted by more than one institution, since this would essentially "fix" the net price charged to the student regardless of the institution he or she eventually attended (Vobejda, 1989; Barrett and Chipello, 1989; Jaschik, 1989). Spokespeople for several of the institutions being investigated have argued that coordinating financial aid offers helps the institutions avoid "bidding wars" among themselves and takes the financial element out of the applicant's decision about where to matriculate (Dodge, 1989; Putka, 1989). They have also argued that institutions could raise tuitions much higher than they have and still attract high calibre students (Bradburd and Mann, 1990).

Similarities among tuition and financial aid offers among higher education institutions, however, are not necessarily the result of concerted action. Such similarities could legally arise if schools independently followed the pricing lead of other schools in order to set tuitions that are more or less in line with those of other institutions (Bradburd and Mann, 1990). Some institutions may have an incentive to follow the lead of higher-priced colleges and universities if they think that students view price as an indication of institutional quality.

These demand-oriented theories of tuition setting suggest that colleges are able to spend more money because students are willing to pay more to attend college. In this sense, higher tuition can be thought to "cause" higher expenditures. One demand-oriented theory of tuition setting was posited ten years ago by Howard Bowen (1980). His "Laws of Higher Education Costs" are as follows:

- The dominant goals of institutions are educational excellence, prestige, and influence.
- In questions of excellence, prestige, and influence, there is virtually no limit to the amount of money an institution could spend for seemingly fruitful educational ends.
- Each institution raises all the money it can.
- Each institution spends all it raises.
- The cumulative effect of the preceding four laws is toward ever-increasing expenditure (Bowen, 1980, p. 20).

This theory suggests that schools will increase expenditures, if possible, by increasing revenue from all sources, including tuition. These "laws" of tuition setting defy the assumption that tuition is set exclusively in response to increases in costs or decreases in revenues. Although the two theories relate tuition and expenditures differently, they are not incompatible. Tuition may increase partly because revenue sources decrease or expenses increase at the same time that students are willing to pay more to attend college.

To assess the extent to which expenditures and tuitions affect one another, an econometric model has been developed that measures the relationship between tuitions and expenditures at four-year private schools, four-year public schools, and two-year public schools (Masten, 1990). The model relates changes in tuitions and expenditures to one another from 1975 to 1985 using data on individual institutions from the Higher Education General Information Survey.

The model has been developed to examine the possibility that tuition and expenditures may simultaneously influence one another. Table IV-6 presents the quantitative results from the model

## TABLE IV-6

**Estimated Relationship between Per-student E&G Expenditures and Tuition Revenue, 1975 to 1985**

| | EXPENDITURE PRESSURE ON TUITION | TUITION PRESSURE ON EXPENDITURES |
|---|---|---|
| PRIVATE 4-YEAR | | |
| 75 TO 80 | 0.47** | 0.08 |
| 80 TO 85 | 0.54** | 0.65** |
| PUBLIC 4-YEAR | | |
| 75 to 80 | 0.16 | -0.09 |
| 80 to 85 | 0.74** | 0.30** |
| PUBLIC 2-YEAR | | |
| 75 to 80 | 0.47** | -0.31 |
| 80 to 85 | 0.90** | 0.41** |

Note: The first column gives the percentage change in tuition revenue associated with a one percent change in expenditures; the second column gives the percentage change in expenditure associated with a one percent change in tuition revenue.

**Null hypothesis that estimated regression coefficient is different from zero is rejected at 0.01 level of statistical significance.

Source: Masten (1990).

in summary form. The first column presents the estimated percentage increase in tuition resulting from a one percent increase in expenditures over the time period considered. This measures the extent to which tuitions were pushed upward by increasing expenditures. The second column presents estimates of the percentage increase in expenditures resulting from a one percent increase in tuition revenue, a measure of the extent to which rising tuitions led to increased expenditures by institutions.

The model results suggest that tuitions and expenditures were simultaneously determined in the 1980-85 period. Tuitions increased in response to cost pressures at the same time that increases in tuitions served as a means to finance additional expenditures. In contrast, during the 1975-80 period tuition increases did not appear to result in increased expenditures, even though increases in expenditures prompted increases in tuition over time. This suggests that the mechanism of tuition setting described by Bowen was in effect after 1980 though not before.

Data in Table IV-6 also suggest that expenditure increases translated into tuition increases at public schools at a higher rate between 1980 and 1985 than between 1975 and 1980. In comparison, there was relatively little change at four-year private schools in the degree to which expenditure increases were passed on to students in the form of higher tuitions. The model findings also indicate that between 1980 and 1985, tuitions at public schools responded more (in percentage terms) to cost pressures than did tuitions at four-year private schools.

The results presented above must be viewed with some caution since additional research using data from other sources and from different time periods might point to different conclusions.[11] However, the findings of this econometric model indicate that changes in expenditures have led to larger increases in tuition at the same time that tuition increases have

---

[11]A second econometric model used aggregate annual data from 1966 to 1985 to relate expenditures and tuitions. Given the relatively short time period covered by the data, it generally was not possible to measure precisely the relationships between tuition and expenditures across sectors.

been used to fund increases in expenditures. The finding that tuition increases between 1980 and 1985 funded higher expenditures deserves additional investigation, both to confirm the findings and to examine this relation in later years.

## Conclusion

All of the explanations for rising tuitions outlined above have been articulated in a variety of settings, ranging from living rooms to legislative assemblies. There is compelling evidence to support most theories, at least within the context of certain institutions or sectors within U.S. higher education. Yet there is no single reason that tuitions rise, just as there is no single type of institution and no single reason that students choose to pursue higher education.

What is clear is that higher education institutions face a variety of constraints and challenges when setting tuition levels. The value that students and their families place on higher education affects the demand for higher education. Budgets undoubtedly exert pressures on tuitions, as well. The twin goals of ensuring accessibility to a large number of students and improving the quality of education provided can force institutions to make difficult decisions about how much tuition to charge and how to allocate revenues received. Complicating the process is the fact that revenues do not come from a single source, and fluctuations in income from other revenue sources (particularly government appropriations, in the case of the public sector) can affect tuition levels. The confluence of these factors shapes tuition. However, the exact mix of factors differs widely, not only between the public and private sectors, but also by institution.

# CHAPTER V

# FORECASTING THE FUTURE COSTS OF HIGHER EDUCATION

*Forecast the future cost of obtaining a higher education with consideration given to prospective demographic changes in student enrollment.*

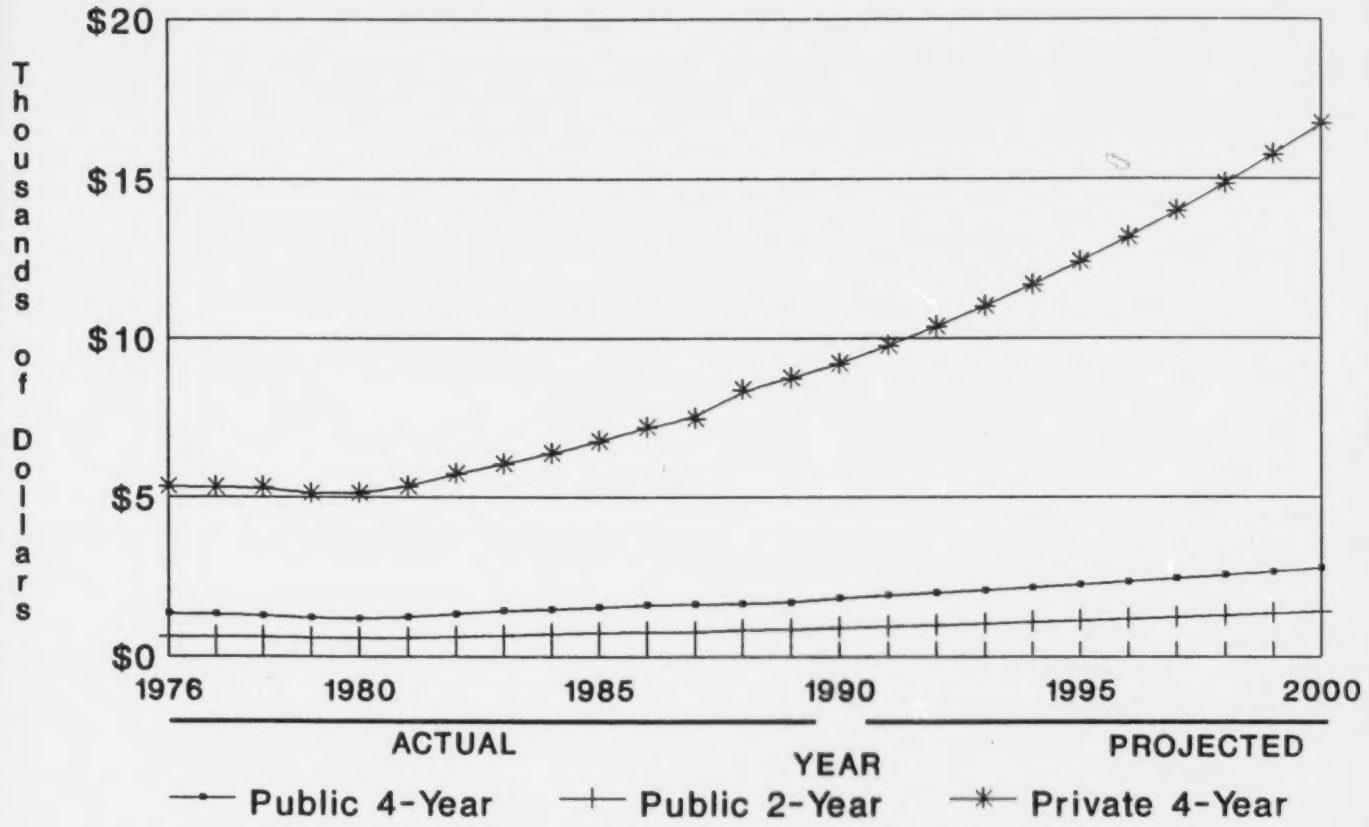
## Background

In the 1990-91 school year, average tuitions at four-year private colleges were almost 75 percent higher than they were in 1980-81, after adjusting for inflation. If tuitions at these schools continue to rise at the same rate as they did in the 1980s, the average tuition at a private four-year college will be $16,889 in the year 2000, or 93 percent higher than 1989-90 levels in real terms. Similarly, the average tuition at a public four-year college will increase to $2,664, or 57 percent higher than current levels, if recent trends continue. Figure V-1 plots tuition levels at different types of schools over time and Table V-1 presents estimates of future tuitions based on the assumption that real tuitions will continue to grow as rapidly throughout the 1990s as they did throughout the 1980s.

However, these tuition projections are based solely on trends in tuition during the 1980s; they do not consider possible changes in institutions' expenditures and revenues; nor do they consider the impact of possible changes in the demand for higher education. Changes in any of these areas could lead to different projections of college tuition. Furthermore, potential tuition increases do not determine whether college will be more or less affordable in the future. If family incomes increase twice as fast as tuitions do, then a tuition of $16,889 for a private four-year college in the year 2000 may not be affordable for many families. On the other hand, if tuition increases exceed increases in family income, or if financial aid does not keep pace with tuition growth, a tuition of $16,889 might be prohibitive to many students.

# Fig V-1: Real Tuition Levels, 1980-2000

**Projections for 1990-2000 based on 1980-89 Trends**




Source: College Board (1989)

## Table V-1

### Projections of Undergraduate Tuitions (1989-90 Dollars) Based on 1980-89 Trends

| | School Year | Public 4-Year | Public 2-Year | Private 4-Year |
|---|---|---|---|---|
| | 1980-81 | $1,176 | $ 572 | $ 5,118 |
| | 1981-82 | 1,224 | 584 | 5,322 |
| A | 1982-83 | 1,330 | 610 | 5,727 |
| C | 1983-84 | 1,429 | 657 | 6,038 |
| T | 1984-85 | 1,472 | 700 | 6,371 |
| U | 1985-86 | 1,535 | 746 | 6,741 |
| A | 1986-87 | 1,611 | 752 | 7,196 |
| L | 1987-88 | 1,630 | 755 | 7,462 |
| | 1988-89 | 1,650 | 835 | 8,367 |
| | 1989-90 | 1,694 | 842 | 8,737 |
| P | 1990-91 | $1,765 | $ 881 | $ 9,277 |
| R | 1991-92 | 1,839 | 922 | 9,849 |
| O | 1992-93 | 1,917 | 965 | 10,458 |
| J | 1993-94 | 1,997 | 1,010 | 11,103 |
| E | 1994-95 | 2,081 | 1,057 | 11,789 |
| C | 1995-96 | 2,168 | 1,106 | 12,517 |
| T | 1996-97 | 2,260 | 1,158 | 13,290 |
| E | 1997-98 | 2,355 | 1,212 | 14,110 |
| D | 1998-99 | 2,453 | 1,268 | 14,982 |
| | 1999-2000 | 2,557 | 1,327 | 15,907 |
| | 2000-01 | 2,664 | 1,389 | 16,889 |

Source: College Board (1989).

Furthermore, tuitions do not typically grow uniformly across all schools. Rather, there are differences in tuition growth at public and private schools, at two-year and four-year schools, at colleges and universities, and at selective and less selective schools. In the future, it is likely that tuition levels and rates of increase will continue to vary across institutions of different type and control.

## Enrollment Trends

The number of students who enroll in postsecondary education will likely affect tuitions. Since there are "fixed" costs to schools that do not vary with the number of students enrolled (such as the costs of maintaining a library), reduced enrollments may well have the effect of raising per-student costs. Also, if there are fewer individuals applying to college, then schools may compete for students either by lowering tuitions or by spending more money to attract students with better programs or facilities, a move which is likely to raise tuitions.

One way to project enrollment is to forecast the number of individuals within different age groups (e.g., 18 to 24 years of age) in a given year and then estimate the proportion of individuals in each group who might attend a postsecondary education institution. It is possible to predict the number of people who will be in different ages groups in the near future on the basis of the current population. For example, we can predict the number of individuals who will be 18 years of age in the year 2000 on the basis of births in 1982 (assuming no large, unexpected changes in mortality or immigration). The more difficult part of forecasting future enrollments is that population estimates must be combined with projections of the fraction of the population that will enroll in college.

The National Center for Education Statistics (NCES) has provided estimates of annual postsecondary enrollments (both graduate and undergraduate) through 2000. These forecasts

combine yearly projections of the age distribution of the population produced by the United States Bureau of the Census with assumptions concerning the rate at which students within an age group attend college. NCES makes different assumptions regarding enrollment rates to create high, middle, and low estimates of the future size of the college-going population. (See Table V-2.)

The low estimates of future enrollments are generated by assuming that current enrollment rates among different age groups will stay the same. Other NCES estimates are determined by assuming college going will increase among different age groups (U.S. Department of Education, 1989). The middle estimates are determined by assuming that enrollment rates will increase over time among students in the 18 to 24 year age group and stay constant for students over 24 years old. The high estimate assumes that enrollment rates will increase for all age groups (U.S. Department of Education, 1989).

Using 1988 enrollments as a base, the low estimate implies a decline in enrollments of about four percent through 2000, compared to increases of five percent under the middle scenario and twelve percent under the high scenario. It should be noted that NCES divides its estimates of future enrollments between the public and private sectors, between two-year and four-year schools, and between full-time and part-time students. Across the different scenarios, these divisions closely reflect the current distribution of students. For example, about 78 percent of all enrollments are assumed to be in the public sector (the current proportion) in all years and under all three scenarios.

It cannot be stated that any one estimate of future enrollments is most likely to be realized without some consideration of how college-going rates might change in the future. If, for example, the costs of attending college go up sharply, financial aid declines, or student demand to

## Table V-2

## Projection of Higher Education Enrollments (Enrollments in Thousands)

| | 4-Year Public | 2-Year Public | 4-Year Private |
|---|---|---|---|
| 1980 | 5,129 | 4,329 | 2,442 |
| 1985 | 5,210 | 4,270 | 2,506 |

Low Alternative Projections

| | 4-Year Public | 2-Year Public | 4-Year Private |
|---|---|---|---|
| 1990 | 5,367 | 4,454 | 2,550 |
| 1995 | 5,091 | 4,308 | 2,422 |
| 2000 | 5,245 | 4,389 | 2,484 |

Middle Alternative Projections

| | 4-Year Public | 2-Year Public | 4-Year Private |
|---|---|---|---|
| 1990 | 5,623 | 4,668 | 2,666 |
| 1995 | 5,471 | 4,619 | 2,595 |
| 2000 | 5,683 | 4,744 | 2,688 |

High Alternative Projections

| | 4-Year Public | 2-Year Public | 4-Year Private |
|---|---|---|---|
| 1990 | 5,986 | 5,002 | 2,837 |
| 1995 | 5,843 | 4,941 | 2,777 |
| 2000 | 6,098 | 5,080 | 2,895 |

Source: National Center for Education Statistics, 1989.

attend college declines, then a low enrollment estimate is probable; if the opposite conditions prevail, a high estimate is more likely.

To the extent that enrollment trends from the recent past continue in the future, a middle or high scenario would seem to be likely. During the 1980s, the rate at which individuals 18 to 24 years old attended college increased slightly (contrary to expectations). In addition, the enrollment rates of individuals over 35 years of age increased in the 1980s, and this age group will grow more rapidly than groups of younger individuals.

Despite their differences, all of the above scenarios share one feature: all three estimates predict that enrollments will decline through the mid-1990s before increasing by the year 2000. This is expected to result from a continuing decline in the number of 18- to 24-year olds that began in the early 1980s but is expected to reverse in the mid-1990s. As a result of these demographic changes, the first half of the 1990s is expected to be a time of declining enrollments. The effects of these enrollment changes on the cost of obtaining a higher education are examined in more detail in the next section.

## Enrollment Changes and College Costs

The expected decline in the number of individuals enrolled in college over the next five years may create pressures that could either increase or decrease tuitions. However, it is not possible to predict what the precise effect of demographic changes on future tuitions will be. These effects will not be the same across all schools. Rather, they are likely to differ by the selectivity of schools, that is the portion of their total applicant pool that schools choose to accept (Bradburd and Mann, 1990a).

Whether tuitions will increase as the result of declining enrollments depends in part on how institutions compete with one another to enroll students. Offering lower prices is one

possible means of competition; if there are fewer students to enroll, then a school could offer lower tuitions than competing institutions in an effort to make enrollment more attractive. Schools could also compete with one another by providing students with additional facilities and services. Although this second strategy would put upward pressure on tuitions, enrollments could be maintained if students were willing to pay more in tuition to cover additional costs.

In general, schools will have an incentive to maintain their enrollments over this time, in part to spread the various "fixed" costs of higher education (such as maintenance of facilities) over as many students as possible. If enrollments fall, these costs will be spread over fewer students, putting upward pressure on tuition. For most schools, attempting to attract students by offering lower tuitions to all students will be an inefficient means of attracting students. Tuition reductions would have to be very large at most schools to attract additional students, and there would be losses in tuition revenue to schools that followed such a policy.

The effect of declining enrollments may have relatively little effect on tuitions in the public sector depending on the decisions states make in appropriating money to their higher education systems. If states choose to increase or maintain their appropriations as enrollments decline, there will be less incentive to raise tuitions. Of course, whether state governments choose to raise appropriations depends on factors such as state fiscal conditions and commitment to maintaining low tuitions, factors that vary state by state.

If state economies slow, then state governments will be able to appropriate less to the costs of providing higher education, and tuitions may increase to make up the shortfall. Another factor that could affect the availability of state appropriations to higher education may be the competition higher education faces from other areas of the budget. As spending categories such as Medicaid and corrections make greater claims on state budgets, there may be less money available for higher education (Sherman, Tikoff, and Masten, 1990). In addition, if

the number of individuals who attend college declines, then state legislatures may find it easier to make smaller appropriations to higher education than if enrollments were rapidly increasing.

Private schools that are not selective could, in the face of declining enrollments, attempt to attract students by improving their offerings, though this strategy would put upward pressure on tuition. This option may not be successful, though, since students at these schools could shift to lower-tuition public schools. Unless public tuitions were to increase sharply in the 1990s, tuition increases at less-selective private schools may be moderated by the prospect of declining enrollments, given that these schools are likely to be in close competition with public schools.

Many of the most expensive private schools turn away a large share of their applicants, and they could presumably charge more and still enroll students (Bradburd and Mann, 1990). At some point, however, students might not value the "extra" quality that their higher tuitions buy and would not be willing to pay the high costs of attending these schools. Given that these schools enroll only a fraction of their applicants, a modest decline in the college-going population in the early 1990s will presumably have little effect on enrollments at these schools.

If college enrollments decline, tuitions could increase if employers' demand for college-educated workers grew more quickly than the supply of such workers. Faced with a decline in the number of college graduates, employers may bid up the wages and benefits they offer to college graduates. This will increase the economic benefit of attending college, and as a result, students may be willing to pay higher tuitions in order to obtain a higher education. This effect may vary by type of school. For example, if employers' demand for graduates of selective private schools increases more than their demand for graduates of other schools, students may be willing to pay higher tuitions to attend these schools in the future.

## Higher Education Costs and Future Tuition

As noted in the previous chapter, tuition increases in the 1980s resulted to some degree from schools having to pay more for the goods and services that they use to provide education. This explanation suggests that as college expenditures increased, schools found it necessary to raise tuitions in order to cover these expenditures. To the extent that tuitions are driven by increased costs incurred by colleges, future tuition growth will be driven by growth in college expenditures.

A potential source of expenditure growth in the future is the cost of repairing and maintaining the physical plant. Some have argued that institutions need to spend billions of dollars to renovate older facilities, including those for which maintenance and repair have been deferred. A recent study estimates that colleges and universities will need to spend at least $60 billion to upgrade their buildings and other facilities in the near future (National Association of College and University Business Officers and Association of Physical Plant Administrators of Colleges and Universities, 1989).

A major component of college costs that increased at a rate greater than inflation through the 1980s was faculty salaries. This can be contrasted to the decline in salaries which occurred in the 1970s. Faculty salaries in the 1980s may have increased beyond inflation in part to make up for the real declines of the 1970s. Although faculty salaries may be catching up to their earlier levels, there are still reasons to believe that salaries in some disciplines may continue to increase. Schools may find it necessary to raise salaries to meet competition from non-academic employers at a time when shortages of faculty members are predicted (Kirshstein and Fairweather, 1990).

One factor that may moderate increases in faculty expenditures in the 1990s is the retirement of senior faculty members hired during the 1950s and 1960s. Assuming that these faculty members are replaced by lower-paid faculty members, expenditures on faculty will decline.

However, this replacement of senior faculty members by younger faculty could be delayed by legislation which eliminates mandatory retirement by a specified age by 1994. Although faculty costs would rise if senior faculty choose to work beyond current mandatory retirement age (70 at most institutions), research suggests that the effects of uncapping the retirement age may be quite modest (Holden and Hansen, 1989).

In addition to changes in physical plant and faculty salaries, a number of other goods and services purchased by institutions could also change in the future. For example, the use of improved technology could radically alter how students are actually taught, which, in turn, could affect spending for faculty, equipment, etc. Attempting to identify and analyze these types of changes quickly becomes an impossible job.

An alternative to predicting the future cost of the various goods and services that colleges purchase is to forecast college expenditure growth on the basis of past trends. One way to do this is to examine past relationships between average per-student expenditures and factors such as family income that are thought to be associated with these expenditures. By projecting the future course of these explanatory factors, it is possible to forecast future expenditure growth. NCES used this type of method (regression analysis) to provide estimates of per-student education and general expenditures through the year 2000 (U.S. Department of Education, 1989).

The NCES forecasts of college expenditures are presented separately for four-year private schools, four-year public schools, and two-year public schools. Like the enrollment projections discussed earlier, there are high, middle, and low alternatives. These alternatives are computed using different assumptions regarding the growth in disposable income; college expenditures are assumed to increase with income. All three sets of NCES estimates indicate that per-student expenditures will increase (after adjusting for inflation) steadily throughout the 1990s, though there are significant differences across the three scenarios.

The lowest projected growth rate assumes that inflation will increase and that there will be a recession in the early 1990s that depresses growth in family income. The middle alternative assumes that the economy will grow moderately throughout the 1990s following current trends. The high alternative is based on the optimistic scenario that there will be higher economic growth and lower inflation in the 1990s.

The projected trends under the various scenarios suggest that expenditures will grow more slowly than they did in the 1980s for all types of schools. It is only for public two-year schools under the high alternative that the forecasted growth in expenditures exceeds earlier expenditure growth. The projected expenditure trends are presented for each type of school under the three scenarios in Table V-3, along with their 1980 and 1985 values.

To the extent that tuitions are driven up by the need to cover the rising costs of goods and services, a slowdown in the rate of college expenditures may serve to reduce college tuitions. These expenditure forecasts can be used to predict future tuitions under the assumption that tuitions cover a fixed percentage of these per-student costs and that future tuitions will move in step with per-student expenditures.

Table V-4 presents estimates of future tuitions based on the assumption that tuitions will grow at the same rate as expenditures under the middle scenario used by NCES. The tuitions projected using this method are lower than those obtained by projecting from recent tuition trends. (See Table V-1.) This result follows because tuition growth was greater in the 1980s than projected per-student expenditure growth in the 1990s. If expenditure growth does slow in the future, there may be less pressure on the part of colleges to raise their tuitions to cover rising expenditures.

One problem with assuming that tuitions move in step with expenditures is that tuitions are but one source of revenue available to schools. If other sources of revenue (such as state

## Table V-3

## Projection of Per-Student Higher Education Expenditures (1989-90 Dollars)

| | 4-Year Public | 2-Year Public | 4-Year Private |
|---|---|---|---|
| 1980 | $ 9,770 | $ 4,432 | $11,287 |
| 1985 | 10,548 | 4,693 | 13,062 |

Low Alternative Projections

| | 4-Year Public | 2-Year Public | 4-Year Private |
|---|---|---|---|
| 1990 | 11,782 | 5,403 | 14,685 |
| 1995 | 13,003 | 6,298 | 17,316 |
| 2000 | 13,432 | 6,547 | 17,974 |

Middle Alternative Projections

| | 4-Year Public | 2-Year Public | 4-Year Private |
|---|---|---|---|
| 1990 | 11,754 | 5,386 | 14,645 |
| 1995 | 13,302 | 6,475 | 17,761 |
| 2000 | 14,172 | 6,983 | 19,072 |

High Alternative Projections

| | 4-Year Public | 2-Year Public | 4-Year Private |
|---|---|---|---|
| 1990 | 11,812 | 5,421 | 14,731 |
| 1995 | 13,576 | 6,636 | 18,166 |
| 2000 | 14,830 | 7,311 | 20,046 |

Source: National Center for Education Statistics, 1989.

## Table V-4

### Projections of Undergraduate Tuitions (1989-90 Dollars) Based on Projected Per-Student Expenditure Growth

| | School Year | Public 4-Year | Public 2-Year | Private 4-Year |
|---|---|---|---|---|
| | 1980-81 | $1,176 | $ 572 | $ 5,118 |
| | 1981-82 | 1,224 | 584 | 5,322 |
| A | 1982-83 | 1,330 | 610 | 5,727 |
| C | 1983-84 | 1,429 | 657 | 6,038 |
| T | 1984-85 | 1,472 | 700 | 6,371 |
| U | 1985-86 | 1,535 | 746 | 6,741 |
| A | 1986-87 | 1,611 | 752 | 7,196 |
| L | 1987-88 | 1,630 | 755 | 7,462 |
| | 1988-89 | 1,650 | 835 | 8,367 |
| | 1989-90 | 1,694 | 842 | 8,737 |
| P | 1990-91 | $1,727 | $ 864 | $ 8,992 |
| R | 1991-92 | 1,761 | 887 | 9,255 |
| O | 1992-93 | 1,796 | 910 | 9,525 |
| J | 1993-94 | 1,831 | 934 | 9,804 |
| E | 1994-95 | 1,867 | 959 | 10,090 |
| C | 1995-96 | 1,904 | 984 | 10,385 |
| T | 1996-97 | 1,941 | 1,010 | 10,688 |
| E | 1997-98 | 1,980 | 1,037 | 11,001 |
| D | 1998-99 | 2,019 | 1,064 | 11,322 |
| | 1999-2000 | 2,058 | 1,092 | 11,653 |
| | 2000-01 | 2,099 | 1,121 | 11,993 |

Sources: National Center for Education Statistics (1989), College Board (1989).

appropriations) decline, then schools may have to rely more heavily on tuition to cover their expenditures. If these alternative revenues diminish in the future, then schools may rely more on tuitions to cover their expenditures, and tuitions may continue to grow faster than expenditures.

## The Future Affordability of College

The question of how affordable higher education will be depends not only on changes in tuition, but also on other costs of attending college, the ability of students and their families to pay for college, and the availability of financial aid to help pay for college. As discussed in Chapter II, college became less affordable for many students in the 1980s because tuitions and other costs of attending college increased more rapidly than did financial aid. Also, the price of private higher education increased considerably faster than median family income.

One approach to evaluating the future affordability of college combines different projections regarding tuition and other student costs, institutional costs, family income, and the value of financial aid. This approach was used by Bradburd *et al.* (1990). Using data from the 1978-85 period as a baseline to make projections as far as the year 2010, their model examines how the projection changes when the factors affecting affordability shift.

The baseline scenario assumes that recent trends will continue into the future. Under this scenario, average college costs are projected to make up a somewhat larger fraction of family incomes after financial aid is considered. These baseline projections show that between 1990 and 2000:

- The after-aid costs of four-year private schools will increase from 18 to 21 percent of median family income;
- Public two-year costs (after aid) will remain a constant eight percent of income;
- Public four-year costs will increase from nine to ten percent of family income.

It is important to realize that the baseline forecasts project recent trends and do not necessarily represent the "best" estimate of the future affordability of college. One deviation from the baseline that could have very significant effects on the affordability of college over time is the level of growth in the economy. This growth affects both family incomes and the level of non-tuition revenues available to schools. If tuition is viewed as the residual between college expenditures and other revenue sources, then a decrease in non-tuition revenues will put upward pressure on tuition.

The Bradburd *et al.* paper projects the after-aid cost of attending a private four-year school in the year 2000 to be 16 percent of family income if economic growth increases by one percent a year from current levels, and 22 percent of family income if this growth decreases by one percent a year. Similarly, the after-aid cost of attending a four-year public school is projected to be seven percent of family income under the assumption of increasing economic growth and twelve percent of income if the economy declines.

## Conclusion

It is exceedingly difficult to forecast the future course of tuitions in that there are many factors that may interact to determine the tuition levels that we observe. Projecting tuitions on the basis of past trends does not guarantee these forecasts will be realized even in the near future; new factors may enter the process by which tuitions are determined and the influence of existing factors may change.

Recently, tuition growth has slowed from earlier rates, though it continues to increase beyond the general rate of inflation. The rate of growth in public tuitions between the 1985-86 and 1989-90 school years was about half of its growth earlier in the decade. The growth in tuitions at private four-year schools has only very recently declined; between the 1988-89 and

1989-90 school years, tuitions at four-year private schools grew by 4.4 percent beyond the rate of inflation, compared to a six percent average growth rate earlier in the decade.

One plausible reason why tuition growth at private schools has slowed is that the costs of attending these schools may have reached the level at which many students find it difficult to attend without financial aid. Given the slow increase in financial aid during the 1980s, high tuitions at many private schools may have encouraged students to apply to and attend other, less expensive schools. Alternatively, the extensive public discussion of the rapid tuition growth at private schools (particularly at the most expensive schools) may have reduced students' willingness to pay high tuitions to attend these schools. In addition, negative public reaction to these stories may have pressured institutions to hold the line on tuition increases.

The moderation of tuition growth at public schools after 1985 may have occurred because many states were running budget surpluses and were able to increase appropriations to higher education. This can be contrasted to the earlier part of the decade when many states were constrained in their ability to raise revenue because of an economy-wide recession.

Any recent moderation in tuitions could of course reverse itself in the future. For example, an economic recession could reduce state support for higher education, forcing states to decide between raising tuitions or cutting expenditures at public institutions. A recession could also reduce the availability of Federal financial aid at both public and private institutions; this would reduce the affordability of both types of institutions. A decline in Federal financial aid for students at private schools could pressure private institutions to raise tuitions to generate institutional financial aid that could be "rebated" to needy students to make up for this decline in aid.

In conclusion, the future affordability of college will depend on factors such as college costs, family income, financial aid, and even the demand for college. The encouraging news is

that even if recent trends in college costs and family income continue, college costs as a share of family incomes will not increase as rapidly as they did in the early 1980s. However, if college costs increase much more rapidly than they have in the past or family incomes decline sharply, then college could become less affordable for many students and their families.

# CHAPTER VI

# MINIMIZING COSTS: INSTITUTIONAL, STATE, AND FEDERAL OPTIONS

*Evaluate the impact of such changes in cost on institutions of higher education . . .*

*Make recommendations on how such changes can be minimized in the future.*

*Outline State and Federal policy options which may help to minimize such changes in cost in the future.*

## Background

Since tuition is only one of many interconnected components of higher education costs, effective cost control policies must consider costs to each of the parties contributing to higher education budgets. These include not only students and parents, but also colleges and universities themselves, state and local governments, and the Federal government. In public institutions, state general funds provide the largest portion of institutions' revenues and essentially subsidize tuitions for all students enrolled in those institutions. In addition, state and Federal governments directly finance a portion of some students' attendance costs through various forms of financial assistance. Many individual colleges and universities also discount attendance costs through institutional financial aid. Given these shared costs, the "net" price of attending a college or university paid by students and parents can be lowered either through reduced fees (i.e., for tuition, room, and board) or through increases in state and Federal financial assistance to students. For institutions, on the other hand, limiting costs generally entails controlling operating expenses and obtaining sufficient revenue to cover costs. The costs of higher education to local, state and Federal governments can be limited by reducing direct appropriations to institutions or restricting government-sponsored financial aid.

The complexity of higher education finance thus makes **absolute** cost reduction (i.e., lower costs to **all** parties) difficult to guarantee. Reducing costs for one party very likely may raise costs for another. For example, reductions in state appropriations to public higher education institutions may lower costs to the states but might also compel institutions to raise tuitions; higher tuition, in turn, would increase the costs of higher education to the consumer and/or to state and Federal agencies providing financial assistance. Many higher education funding alternatives come with similar tradeoffs attached.

There are also potential tradeoffs between cost savings and other important objectives of higher education, such as quality, access, and choice. Examples of possible cost containment strategies at the institutional, state, and Federal levels illustrate this point.

- Colleges and universities might increase class sizes or reduce the size of libraries and laboratories to hold costs down, but such measures might also reduce the quality of undergraduate education they offer.
- States might be able to lower both state appropriations (costs to states) and tuition (costs to students), but to do so they might have to limit enrollment or programs, which may in turn decrease access to higher education.
- Reductions in financial aid could save the Federal government substantial funds, yet without this aid fewer students would be able to afford the college of their choice and some might not be able to attend college at all.

Thus, many cost reduction proposals may not be implemented because they threaten other ideals of American higher education.

Policies and strategies to reduce costs must also consider the special characteristics of the postsecondary education system. Cost cutting strategies that appear appropriate in other sectors of the economy may not prove feasible in an academic setting. Moreover, the more than 3,000 higher education institutions in the U.S. differ by source of control, size, mission, student populations, price, reputation, and other characteristics. A reasonable cost reduction strategy in one type of institution may not be appropriate to another type. For example, while savings on

research expenditures might cut overall costs considerably for large doctoral institutions, such an approach would have a much smaller impact on community colleges. Similarly, institutions in close geographical proximity to one another might save on instructional costs by forming consortia that permit students to enroll in classes on a number of different campuses, though such enrollment consortia would be impractical for geographically remote institutions.

This chapter considers ways in which the future costs of higher education may be minimized, taking into account the involvement of multiple players and the tradeoffs associated with each cost reduction strategy. It begins with an exploration of how rising costs have affected institutions and profiles what institutions are doing to restrain further cost increases or minimize their negative impact. The remainder of the chapter focuses on cost reduction strategies that can be implemented at the institutional, state and Federal levels, including both current practices and proposals for the future.

## Effects of Tuition Growth on Academic Institutions And Policy Options for the Future

Tuition both affects and is affected by college and university budgets. As noted in Chapter IV, many of the reasons for tuition increases are tied to higher education institutions' budgets, particularly the escalating costs of certain kinds of spending. High tuitions, in turn, have prompted many institutions to trim budgets and strengthen efforts to raise additional revenues. If budget pressures have caused tuitions to rise, financial restraint might help curtail tuition growth.

When faced with budget pressures, higher education institutions generally feel they are better able to control expenditures than to raise revenues (Chaney and Farris, 1990). As the largest and fastest growing expenditure categories in the average U.S. higher education institution, academic and administrative expenditures (respectively) have been the prime targets of many budget-cutting proposals. Critics argue that cutbacks in institutional spending would negatively

affect quality and access at many colleges and universities. They cite, for example, the reduction or elimination of campus services and limitations on institutional financial aid funds. Others, however, insist that such decisions are necessary to stem further increases in tuition.

A second type of institutional policy aims to obviate both tuition increases and expenditure reductions by raising additional revenues. Examples of supplementary revenue sources may include voluntary contributions and sales of goods and services that institutions make publicly available. Some institutions have invested considerable funds in efforts to tap these potential resources. Public institutions, particularly, have intensified their fundraising efforts to attract a growing portion of all contributions to higher education.

Institutions have also implemented policies that directly target tuition and other costs to students and families. The object of some of these plans is to facilitate family financing of college attendance costs by encouraging parents to plan for or even prepay tuition before their child is ready to attend college. Other policies involve cost-based tuition -- that is, calculating an individual student's tuition on the basis of the cost of providing his or her education.

Many institutions have already implemented one or more of these measures to help contain costs. Higher education analysts have proposed a number of other proposals. These measures, both proposed and implemented, are discussed below.

**Limitations on Institutional Spending**

**Academic Expenses**

Academic expenses consist primarily of faculty compensation. Thus, changes in the salaries, benefits, productivity, and activities of faculty can have important consequences for higher education budgets. Many academic institutions have been limiting growth in average faculty compensation levels by replacing senior faculty who retire with less expensive assistant professors

(Russell *et al.*, 1989). However, any resulting savings are necessarily short-term, since the salaries of faculty will eventually increase as faculty move into higher ranks.

A longer-term strategy might involve reducing salaries of full-time faculty at all ranks. Yet in the current era of increasing faculty shortages and competition from outside academe, cutting faculty salaries is not a viable option. On the contrary, academic institutions have raised salaries to attract and keep faculty (Kirshstein and Fairweather, 1990). Institutions' fears of losing faculty to more lucrative positions is validated by recent evidence demonstrating that faculty do leave academe for the private sector when salary disparities between academe and industry exceed a certain level, particularly in the sciences and engineering (Fairweather, 1989). If projected faculty shortages materialize in the future, upward pressure on faculty salaries is likely to intensify.

Since salary reduction for full-time faculty seems unlikely in the current and upcoming economic climate, academic institutions increasingly have turned toward a different type of faculty appointment: the part-time position. Rather than filling many faculty vacancies with expensive tenure-track appointments, academic administrators have attempted to lower the cost of compensation by hiring less expensive part-time faculty to teach. In 1988, almost 40 percent of all faculty in American two- and four-year colleges and universities were employed part-time (Russell *et al.*, 1989). The Study Group on the Conditions of Excellence in Higher Education (1984) has warned, though, that at some level increased reliance on part-time faculty may adversely affect the quality of undergraduate education. As with many cost savings alternatives, the use of part-time faculty poses a potential tradeoff between cost savings on the one hand, and quality of instruction on the other.

Another approach to reducing the costs of faculty compensation is to reduce the number of faculty positions. Although some institutions have resisted cutting faculty positions because of the potential adverse effect on instructional and research capabilities, others have closed academic

programs outright to save funds. A recent unpublished Association of American Universities (AAU) survey of major research universities found that 60 percent of them were considering cutbacks in faculty positions or eliminating programs entirely (Chira, 1990; McMillen, 1989). For example, Washington University recently closed its once renowned sociology department; Columbia University has closed its departments of geography, linguistics, and library science; and the University of Michigan no longer operates a school of education.

Some institutions have dealt with program cutbacks and inability to expand into new areas by developing consortia. These consortia frequently enable students to cross-enroll in courses offered at different institutions without having to go through a formal process to transfer credit or pay separate tuitions. Examples of such cooperative enrollment programs abound.

In Massachusetts, for example, The University of Massachusetts at Amherst, Smith College, Mount Holyoke College, Hampshire College, and Amherst College have formed The Five Colleges, Incorporated. This organization arranges for students enrolled at any institution in the group to take classes at any other institution and coordinates professors who teach classes on more than one campus. Student activity fees help defray the costs of operating a free shuttle bus that transports students among the five campuses. The presidents of the member colleges and the chancellor of the University of Massachusetts are the directors of The Five Colleges, Incorporated; deans and faculty from each of the participating institutions also meet regularly to discuss what courses will be offered at each of the colleges. A principal goal of this organization and many others like it is to guarantee students access to a wide range of courses and program areas that would be prohibitively expensive for each individual institution to provide separately.

Another cost-reduction option may be to increase faculty productivity, i.e., to produce greater "output" for the same dollars. However, increasing faculty workloads may not be realistic given the number of hours which faculty currently report working. [In a recent NCES survey,

full-time faculty responded that they currently average a 53-hour work week (Russel *et al.*, 1989).] Instead, defining and rewarding those work activities which the institution values may be a more realistic option. Productivity might also be maximized through larger student/faculty ratios and class sizes, though such actions are likely to adversely affect the quality of undergraduate instruction (Boyer, 1987). Moreover, despite the availability of instructional technology, such as the ability to videotape lectures, expanded use of technology is unlikely to result in substantial cost savings once the purchase and maintenance costs are taken into account (McPherson and Skinner, 1986).

Another potential way to increase faculty productivity with respect to undergraduate education is to shift work activities toward instruction, which most directly affects undergraduate students. Several critics have commented that increasing emphasis on research and scholarship in all types of institutions, including those devoted primarily to teaching, has resulted in a decline in undergraduate education (Bowen and Schuster, 1986). Others allege that undergraduates, particularly those at private research universities, essentially subsidize graduate students' attendance costs, and benefit little from costly research and prominent scholars employed by the institutions. (This scenario exemplifies another choice institutions make when allocating resources: the tradeoff between undergraduate and graduate education.) However, without substantial changes in the promotion and tenure (faculty reward) structure, shifts in faculty activities toward teaching are unlikely.

Library Expenses

Other institutions have implemented library consortia to help contain costs. Similar to the enrollment consortia described above, library consortia aim to give institutions and the students and faculty they serve access to many more library resources than any individual institution could likely afford.

The Washington Research Library Consortium is an example of a library consortium. It is comprised of eight higher education institutions in the Washington, D.C. metropolitan area. The Consortium was formally incorporated as a non-profit corporation in 1987 in response to "a clear need to counter the trend of increasing costs for managing information and to improve library and information resources and services in support of research and instruction" (Lemke, 1989, p. 1). The Consortium aims to reduce several critical areas of library-related capital and operational costs, including the costs of preserving, maintaining, improving and storing library materials, and the costs of providing access to them. Initial findings of a cost-benefit analysis conducted in an earlier phase of the Congressionally mandated study on escalating college costs suggest that the activities of the consortium can reduce library costs while providing the participating institutions with the benefits of improved library and information services (Lemke, 1989). In return for these benefits, institutions commit themselves to support the Consortium and abide by its guidelines, thus sacrificing some institutional autonomy.

**Administrative Expenses**

As noted in Chapter IV, administrative positions have grown in number faster than any other job category at higher education institutions in the past ten years. Recognizing administration as a possible source of savings, 75 percent of academic research institutions recently surveyed by the AAU anticipate reducing administrative personnel in some manner (Chira, 1990; McMillen, 1989). Institutions can reduce administrative costs by eliminating unnecessary (or at least less desirable) positions or by improving managerial decision-making (U.S. Department of Education, 1990).

Stanford University is one of a number of institutions that has implemented a plan to reduce administrative expenditures over an 18-month period. Citing budgetary pressures on research-related activities, physical plant costs, and rapidly rising administrative expenditures

(including positions created to comply with government regulations), Stanford administrators have announced an administrative reorganization. Targeted budget reductions for administrative offices range from zero to 30 percent, which have necessitated lay-offs in many offices. Although academic departments have not faced similar budget cuts, they are expected to feel the consequences of administrative cutbacks as they assume various responsibilities formerly carried out by central administrative offices.

Higher education institutions do not have complete freedom in reducing administrative positions, however. Many of the staff positions have been added to meet government regulations, e.g., to comply with health and safety regulations, to monitor progress of minority aid recipients, and to implement Rehabilitation Act 504, which ensures access to campus facilities for individuals with disabilities. Careful study by academic leaders and by state and Federal officials is needed to determine the impact of legislation on the growth in administrative positions and to identify possible methods for reducing administrative costs.

Another path to streamlining institutional administration is to improve management. A recent survey of higher education institutions found that a majority of the institutions sampled had implemented three types of management initiatives:

- Improving the budgeting process (82 percent);
- Developing a strategic plan (78 percent); and
- Implementing or modifying a management information system (68 percent) (Chaney and Farris, 1990).

These same three responses were also those most often reported as being most effective. However, private institutions were more likely to consider "improving the budget process" or "developing a strategic plan" to be very effective than were public institutions.

In the higher education arena, strategic planning means establishing goals based on institutional priorities and allocating resources accordingly. Strategic planning has been credited

with helping institutions identify and nurture fields of "selective excellence" -- academic programs of particular strength or importance -- while eliminating weaker or less essential programs from the curriculum. Strategic planning might also address effective ways of controlling costs at a particular institution by relating possible cost containment strategies to potential consequences for quality and access (Keller, 1983). Several institutions -- ranging from small liberal arts college such as Centre College in Kentucky to larger multi-campus institutions such as Fairleigh Dickinson University in New Jersey -- report substantial cost savings and improved performance through strategic planning procedures (McMillen, 1988). However, others argue that applying the business-like "strategic planning" methods to higher education institutions can weaken faculty and staff morale and threaten many of the unique aspects of academic communities.

**Scholarship Expenses**

The institutions most affected by rising institutional aid budgets are private colleges and universities. In recent years, many of these institutions have implemented policies to stem the rapid growth in student aid budgets. Smith College, for example, is one of several institutions that has abandoned "need-blind" admissions in recent years in an effort to restrain escalating institutional aid expenditures. (Institutions practicing a "need-blind" policy evaluate all applications for admission without considering whether or not they will require financial assistance and then assure them enough aid to attend.) Other institutions, such as Oberlin College, report that they have begun to recruit affluent students more actively to help reduce the proportion of students who need institutional financial assistance (Cooper, 1990). Although both Smith and Oberlin note that these new admission strategies will affect only a portion of prospective students, the new policies represent a decision to hold down costs at the institutional level at the risk of potentially sacrificing some of the access and economic diversity that the institutions have sought.

### Research Expenses

Because higher education institutions typically perform some degree of research, other cost containment approaches focus on reducing costs associated with research. For example, Stanford University recently cut overhead rates due to faculty concerns that high overhead costs might be making Federal research grants and contracts increasingly difficult to obtain (Chira, 1990). However, it should be noted that reduction in research overhead costs, while providing potential savings to Federal and state agencies that sponsor research, may reduce institutional revenue and hence create pressures for institutions to raise revenues from other sources, such as tuition.

It is also important to note that this approach is far more pertinent to comprehensive and doctoral institutions than to two-year or liberal arts colleges. Thus, it is not surprising that, in a recent survey of higher education finances, 94 percent of doctoral institutions and 72 percent of comprehensive institutions indicated that they had "increased efforts to obtain research funds" during the 1980s, while only 34 percent of baccalaureate institutions and 16 percent of two-year institutions reported that they had done the same (Chaney and Farris, 1990).

## Increasing Non-tuition-related Revenues

### Philanthropic Support

In addition to reducing expenditure costs, institutions can balance budgets by increasing revenue from other sources besides tuition, government appropriations, and grants and contracts. Private colleges and universities have a long tradition of soliciting voluntary financial contributions from corporations, philanthropic entities, and private individuals, especially alumni. In recent years, public institutions have also intensified their pursuit of voluntary contributions. In 1988-89, public colleges and universities received half of all corporate monies given to higher education institutions, though private institutions continued to receive more corporate support per student

(Council for Aid to Education, 1990). Among institutions responding to a recent survey conducted by the Council for Aid to Education, seven of the 20 institutions receiving the most corporate support in 1988-89 were public institutions; in the same year, 12 of the 20 colleges and universities receiving the most total voluntary support were public institutions.

Throughout the 1980s, voluntary contributions to higher education institutions rose faster than both the CPI and instructional expenditures per student. The rise in contributions to colleges and universities has been attributed largely to aggressive marketing and development campaigns made possible by increases in the size, resources, and professionalization of institutions' development offices. Clearly, institutional spending on development-related activities has contributed to the growth in administrative expenditures. Nonetheless, on many campuses such expenditures are considered "seed money" to stimulate outside contributions to the institution. A recent study of 51 universities determined that it costs approximately 16 cents to raise one dollar in contributions. (Council for the Advancement and Support of Education and the National Association of College and University Business Officers, 1990).

Despite overall growth in contributions to higher education during the 1980s, giving has slowed considerably in recent years. These fluctuations are at least partially the result of changes in tax laws. Many donors to higher education institutions appeared to anticipate future changes in tax law and contributed heavily in 1985 and 1986, the last years governed by the former legislation. In 1987 and 1988, new tax laws went into effect which raised the after-tax cost of voluntary contributions for many donors, and contributions dropped. Nonetheless, changes in tax laws do not appear to have resulted in any net decline in contributions to higher education institutions, at least not yet.

Citing increased competition from other non-profit entities, the Council for Aid to Education projects that another period of dramatic increases in giving to colleges and universities is unlikely in the near future. The Council also notes that:

> What does appear likely and deserving of continued attention is the increasing competition among different types of educational institutions (public and private, research/doctoral, comprehensive, and others) for support from the different categories of donors (individuals, corporations, foundations, and the rest). Educational institutions will define their missions more precisely and sharpen the focus of their appeals. Donors will likewise clarify their missions and focus their support. As a result, the shares of support that various types of institutions receive from various donor categories will probably change (CFAE, 1990, p. 4).

**Sales and Services**

Many academic institutions have also begun to raise additional revenues by selling goods and services. In these endeavors, colleges and universities compete primarily with each other and for-profit organizations. For example, a number of institutions rent out campus facilities, particularly over the summer when students are not on campus. Other institutions benefit from lucrative arrangements with sports broadcasters.

Many types of projects capitalize on university research. Many of these projects, which tend to be embraced by universities, have been fueled by state and Federal government interest in economic development as well as prospects for enhanced institutional revenue. Examples of such projects include:

- Industry-university cooperative research projects;
- Long-term, large-scale research agreements; and
- Research centers and institutes.

Technology transfer arrangements to promote economic development also have grown dramatically. These include:

- Industrial affiliate or associate programs permitting corporations access to faculty research results and university facilities for a fee;

- Research parks;
- The use of industrial incubators to develop new companies;
- Research and development limited partnerships where a university contracts with a particular corporation to develop products from faculty research findings;
- Nonprofit organizations established by institutions (e.g., Wisconsin Alumni Research Fund, Brown University Research Fund); and
- Independent for-profit entities originated by universities (e.g., Michigan Research Corporation) (Fairweather, 1988).

The Dome Corporation is an example of a for-profit holding company; it is owned half by The Johns Hopkins University and half by The Johns Hopkins Health System. The corporation was established by the trustees at The Johns Hopkins University and reports to them, but has its own director, staff, and board of directors (which includes the presidents of the Johns Hopkins University and The Johns Hopkins Medical School). Among the activities of the Dome Corporation are property management, a home health care company, an information database for university researchers (a joint venture with Great Britain), and a company providing housekeeping, security, and parking services.

Another of its subsidiaries is Triad Investors Corporation, a technology transfer project whose aim is to capitalize financially on academic research produced at Johns Hopkins and elsewhere by determining its potential commercial applicability. Unfortunately, like many of its counterparts at other institutions, Triad Investors Corporation and the Dome Corporation generally have yet to demonstrate the payoff anticipated by its founders. It appears that the administrative costs incurred have exceeded any financial benefits to the university to date (Fairweather, 1988), though this may be due to the recent establishment of these services. (The Dome Corporation was founded in 1984, and Triad Investors in 1988.)

Other examples show that despite higher education institutions' investment of millions of dollars in biotechnology, only one pharmaceutical drug (Tagamet, an ulcer medication) has

significantly increased institutional revenue. Thus far, most institutions have not seen large returns on investments in economic development (Fairweather, 1988).

## Tuition Strategies

### Cost-Based Tuition

Some have suggested that tuitions could be lowered or at least made more fair by redesigning tuition charges to reflect different costs incurred by different students. One proposed method of basing tuition on costs is to charge students only for the services they use, rather than requiring all to pay the same "flat" comprehensive fee. Generally, the comprehensive "tuition and required fees" that institutions charge cover everything from classes, laboratory periods, and appointments with professors to gymnasium use, trips to the student health service, and career counseling. Charles Karelis (1989) has likened this method of setting tuition to:

> . . . going out to dinner with a large group of friends. No matter what anybody eats, there is invariably a single check for the whole table, and, just as certainly, the group ends up splitting the check equally, because nobody can be bothered to figure out what each person actually owes. By the same token, students at a typical college also split an overall bill, regardless of what educational goods and services each one consumes (p. 24).

To make student fees more accurately reflect the value of products and services consumed by individual students, Karelis and others have suggested that comprehensive tuition and fees be separated into various parts. The rationale for implementing this type of tuition policy is that students, when faced with some kind of "user fees," might be more aware of and selective about the products and services they use.

However, critics of cost-based tuition have argued that the administrative costs of calculating usage and differential billing might outweigh any financial saving accruing to the student or institution. Disaggregating costs associated with auxiliary services from instructional and overhead costs might also discourage students from using important services, such as health and counseling centers. Such cost-based tuition proposals also disregard the value of a

comprehensive college experience, which has in many ways become a hallmark of American higher education.

Another type of cost-based tuition differentiates among instructional costs incurred by different students. Currently, most institutions differentiate between graduate and undergraduate tuitions but charge all undergraduate students the same tuition, even though costs vary substantially by level and program area. Typically, high technology fields such as sciences and engineering, which require sophisticated equipment and laboratories as well as the technical personnel to run them, are more expensive than other fields (Greenberg, 1988).

At the University of Minnesota, some of these cost differences are passed onto students through a policy that bases tuition roughly on instructional costs. Thus, lower division undergraduate students (those with fewer than 90 credit hours) pay a lower tuition rate than upper division students. Moreover, upper division undergraduates are charged different tuition rates according to the college or program area in which they are enrolled. Students are permitted to take courses in other colleges or program areas, but their tuition rate i based on their college of registration.

However, over the next four years the University of Minnesota will replace the different tuition schedules with a uniform undergraduate rate. Administrators explained that a single tuition rate was thought to better serve students who might be discouraged from pursuing degrees in the more expensive programs. They noted that students were delaying entry into upper division courses and transferring from less expensive to more expensive program areas very late in their college careers to avoid the additional costs. University officials also reported that the multiple-rate plan had become cumbersome to administer and difficult to explain.

**Tuition Prepayment**

Other institutions have experimented with tuition prepayment plans to protect families from future tuition increases. In 1983, Duquesne University pioneered a tuition prepayment plan which guaranteed parents that payment of tuition while a child was very young would be sufficient to cover the tuition costs when the child eventually enrolled (although admission to the university was not guaranteed). The university planned to invest the prepaid tuition, assuming that the rate of return on investment would be sufficient to compensate for rises in tuition costs until the child was ready to attend college.

Although conceptually appealing, the weakness in the plan became apparent when Duquesne suspended its own program three years after its initiation because the rate of return on investment had not kept pace with increases in operating costs, thereby raising the specter of a severe shortfall in prepaid tuition revenues relative to the institution's operating costs over a long period of time (Hartle, 1988; Hauptman, 1990b). The plan has also been criticized because it was likely to restrain choice among institutions for students from participating families (Barrett, 1986). Despite its limitations, however, the Duquesne model guided several state tuition prepayment plans, described below.

## Policy Options for State Governments

Because state policy and governance of higher education vary widely across states, cost reduction alternatives for state governments differ as well. Generally, state governments subsidize tuition at public institutions primarily through direct appropriations to the institutions. Thus, decisions at the state level in nearly all cases dramatically shape budgets at public institutions. The percentage of operating expenses covered by public subsidies, however, varies enormously by state and type of institution. Public institutions in the Northeast, for example, tend to rely less on

government appropriations and more on tuition than do public institutions in many other regions of the country (Sherman, Tikoff, and Masten, 1990). Some states subsidize private institutions of higher education, as well, and many also provide financial assistance directly to students. Again, the amount and type of funding varies substantially by state (Fairweather, 1990; Hartle, 1988; McGuinness, 1988; Sherman, Tikoff, and Masten, 1990).

In addition to variations in state financing of higher education, there are also differences in the governance role of different states. In some cases state agencies have the overall managerial and/or fiscal responsibility for higher education, while in other states public institutions have much more autonomy. Some institutions have little managerial input from central state offices; at the University of Michigan, for example, state institutions are by charter independent of state management. Other institutions are supervised by state systems that derive their authority from legislation; in California, state legislation mandates teaching loads and forbids the California State Universities from granting doctorates. Still other public institutions, such as those in Alabama, are tightly controlled by both line-item budgeting and state administrative structures.

Proposals for state higher education policy therefore must be tailored to individual state settings. Nonetheless, several general strategies have been suggested to help states reduce higher education costs. These include consistency of state funding, reduction of program duplication, tuition prepayment, and college savings plans, to name but a few.

**Consistent Funding**

A consistent funding pattern might improve long-term planning, and ultimately help reduce costs at both the state and institutional levels. Currently, revenues for higher education are often tied to state economic conditions, which can cause large yearly fluctuations in appropriations to public higher education institutions (Sherman, Tikoff, and Masten, 1990). Consider the case of Illinois: in 1989, public institutions in this state received a 20 percent funding

increase, but in the following year they received a funding increase of less than two percent. Such volatile funding from year to year reduces the efficiency of college and university administrative operations, and severe fluctuations make long-term planning and decision-making almost impossible. Longer-term budgets that average increases in revenues over two or more years might smooth such fluctuations and improve higher education management (Bradburd and Mann, 1990; McMillen, 1989; Sherman, Tikoff, and Masten, 1990). Improved management, in turn, may ultimately lower the costs of providing higher education.

**Reducing Redundancy**

A coherent state plan is also needed to monitor program redundancy. Most state higher education systems consist of a number of institutions; despite differences in institutional missions, there is inevitably some overlap in what they offer. This "duplication" does not necessarily imply wasted resources. For example, a state might need more than one engineering program, especially if the programmatic functions differ (e.g., local and regionally oriented technical assistance versus training in graduate programs). On the other hand, though, such duplication might be a consequence of academic institutions ignoring local, state, or regional needs.

States attempt to control duplication in a variety of ways. State higher education coordinating boards frequently monitor the establishment and elimination of degree programs in public institutions. In some states, approval for any new program in a public college or university is tied to apparent demand (e.g., shortages of engineers or chemists). Other states tie requests for new programs into the budgetary process, where requests are judged according to the availability of funds. In the latter case, institutions typically gauge demand for programs on the basis of requests from students or interest in specific programs.

Recent experience in Louisiana and Kansas suggests that judgments about program duplication can be achieved through a formal review process that reduces political disputes among

institutions. Such formal review processes permit academic institutions to justify ostensibly redundant programs which are actually appropriate to meet demand (Cage, 1989).

Similar to consortia formed by institutions, groups of states have also developed cooperative enrollment arrangements. For example, no university in Kansas offers a dentistry (DDS) program and no public institution in Missouri has a school of architecture. Rather than funding these academic programs, the two states have a reciprocal exchange agreement allowing Kansas residents to enroll in Missouri's dental school and Missouri residents to enroll in Kansas' architecture program, both at in-state tuition rates. Similarly, the Academic Common Market coordinated by the Southern Regional Education Board enables students from 14 Southern states to attend graduate and undergraduate programs in out-of-state institutions at in-state tuition rates. Students participating in such cooperative enrollment programs are commonly those wishing to enroll in a specialized program or one not offered at public institutions in their home state.

State efforts to reduce redundancy can also focus on administrative, rather than academic, expenses. In recent years, for example, the state of Maryland restructured its administration of postsecondary education to increase efficiency and reduce costs. Two state higher education systems were combined and redundant administrative structures were placed within a single state system, the new University of Maryland. As a result, one-third of the administrative staff positions, mostly in the central administrative offices, were eliminated (Goldstein, 1990).

**Tuition Prepayment**

States have also experimented with tuition-based policies, such as tuition prepayment plans or changes in tuition-setting methods. In 1986, the state of Michigan pioneered the use of tuition prepayment at the state level, applying the core concept of the Duquesne University plan statewide. Participating families invest in a statewide fund and are guaranteed that their investment will cover a child's future tuition costs at a public higher education institution in the state. Alternatively, if children eventually choose not to attend a state-supported institution

participating in the program, parents may withdraw funds from the investment and apply them to another institution. As with the Duquesne plan, admission is not guaranteed (Hauptman, 1990b).

By December of 1989, four states had implemented similar tuition prepayment plans, and another seven had adopted plans but had not yet implemented them (McGuinness and Paulson, 1990). The key advantage of plans involving a number of public institutions is that they permit prospective students to choose among several institutions (Barrett, 1986). However, multi-institution plans such as Michigan's pose the additional issue of different tuitions charged by various participating institutions (Hauptman, 1986). In other respects, statewide prepayment plans share many of the benefits as well as risks associated with single institution plans. The critical concern from the institution's standpoint is that the money invested by parents in the program may not equal the actual tuition cost when the child eventually enrolls.

There are also several drawbacks from the parents' perspective. The Internal Revenue Service has ruled that the increase in the value of money placed in a prepayment plan could be taxed by the Federal Government. Furthermore, it is currently unclear how money placed in tuition prepayment plans will be considered in the calculation of financial aid.

Tuition prepayment plans also only "guarantee" tuition for families who can afford to prepay their children's college education and thus can be said to discriminate against low-income parents and children (Layzell, 1988). Moreover, critics have charged that the financial benefits to students and families of tuition prepayment programs are unlikely to exceed those accruing from other forms of savings (Anderson in Barrett, 1986). However, even if the actual savings from prepayment are negligible, tuition prepayment plans may encourage families to start planning for their child's college expenses well before that child is ready to attend and thus make parents better prepared to pay college costs.

**State Savings Plans**

States have also implemented plans that encourage families to save for college. Most college savings plans do not tie investments to a particular institution or group of institutions, but neither do they guarantee that the return on investments will be sufficient to cover tuitions when students enroll. Such programs have proliferated in recent years; by 1989, 24 states had implemented some form of college savings plan (McGuinness and Paulson, 1990).

As with the tuition prepayment plans, the critical issues to address in evaluating college savings plans are whether they supplement or merely substitute for other types of family savings, and how the returns on college saving plans compare to those of other types of investments. If families invest in savings plans rather than other types of savings for college, the net result would not likely increase the ability of families to pay for college. However, if savings plans encourage individuals and families to invest money in higher education savings that they would not have saved otherwise, the resultant savings and their positive impact on affordability could be substantial.

Critics allege that even if state-issued college savings bonds encourage families to save enough to cover tuition costs of inexpensive public institutions, they are unlikely to generate enough savings to meet the costs of more expensive institutions (Baum, 1990). Moreover, as with tuition prepayment plans, college savings plans do not assist low-income families who cannot afford to participate in the program (Hauptman, 1986).

**Tying Tuition Increases to Inflation Indices**

Some states have limited tuition growth by tying it to changes in the prices of certain goods or services, or to the costs of providing higher education. In a 1988 survey of State Higher Education Executive Officers, 14 states indicated that they used the Consumer Price Index or Higher Education Price Index in setting their tuition levels (Curry, 1988). Other states have set

tuitions as a fixed fraction of per-student instructional costs or state appropriations. Policies of this type assure that tuition increases will be in line with growth in overall prices or in costs of providing higher education.

**Proposals to Increase Tuition and Need-Based Aid**

Many (e.g., Fischer, 1990; Karelis and Sabot, 1987) have argued that states could reduce their higher education costs and enhance access for the poorest students by reducing direct government appropriations to institutions and redirecting a portion of these funds to need-based student financial aid. Proponents of this idea argue that the current method of state financing needlessly subsidizes all students, including those who could afford to pay a larger portion of the costs of providing their education. According to the theory, rechanneling government funding toward need-based financial assistance would reduce the net cost of attendance for the most needy students while raising tuitions for other students. Thus, at the heart of such a plan is a shift in costs, lowering them for state governments and raising them for many students and their families.

Among the assumptions underlying such proposals is that students are the primary beneficiary of higher education and that they should bear the primary cost of their education -- at least if they can afford it. Others disagree, arguing that higher education provides important societal benefits. An increase in the number of educated workers, for example, is generally considered to be crucial to future economic competitiveness. From this perspective, state and Federal subsidies that keep the costs of obtaining higher education low benefit the nation at large by encouraging students to pursue higher education. If a state were to reduce the subsidy and raise tuition, some prospective students who could afford to pay this higher cost might choose not to.

Some have also argued that higher "sticker" prices might discourage students from pursuing higher education, especially if these students are unaware of financial aid availability. Several studies have indicated that students are largely unaware of many financial aid programs for which they are eligible (National Opinion Research Center, 1987 and General Accounting Office, 1990).

Others argue against the high tuition/high aid proposal on the grounds that some individuals who need aid might not receive it. Critics note that many students who are not generally considered "disadvantaged" nonetheless would have difficulty financing higher college tuitions. The current policy of universal subsidy at public institutions by definition assures that all students enrolled in these institutions receive at least some subsidy, though at considerable cost to states. Another criticism of the high tuition/high aid proposal is that a portion of the "savings" to the state would have to be spent to administer a large financial aid program (e.g., need determination, reporting and disbursement activities). Policies of raising tuition at public institutions have been discussed since the 1970s. States, however, may be reluctant to raise tuitions at public institutions because citizens have become accustomed to relatively low tuitions, and a policy that increased tuition would appear to place financial burden on many students and their families. States might also be concerned about losing the competitive edge that low tuitions give public institutions. If a state suspended appropriations and allowed tuition at public institutions to rise, increasing numbers of students might choose to attend private or out-of-state institutions; consequently, the state might risk losing many of the potential benefits provided by public higher education institutions. Some advocates of a high tuition/high aid policy, however, argue that more competition with the private sector would improve public higher education by encouraging public colleges to become more responsive to students (Fischer, 1990).

**State Comprehensive Support Programs**

Other states have implemented programs aimed at reducing -- even eliminating -- the costs of attending college for economically disadvantaged students. New York, for example, recently established the Liberty Scholarship program to ensure access to a college education for qualified economically disadvantaged youth. When combined with existing state grant programs and the Federal Pell Grant program, the Liberty Scholarship guarantees recipients total funding for four years of college, including both tuition and other attendance costs.

The tradeoff proposed by New York is to increase the affordability of college for disadvantaged youth by shifting the costs of higher education usually borne by students and families to the state. The anticipated benefits are increased enrollment of these youth, increased retention, and improved high school and college graduation rates. The long-term economic benefits are expected to be increased state tax revenues and lower welfare and unemployment costs.

The Liberty Scholarship program is premised on the assumption that the prospect of a free college education will motivate students to achieve academically and pursue higher education. However, previous research offers little evidence regarding the validity of this assumption. Although some degree of financial assistance in the form of grants is crucial to ensure college access for disadvantaged youth, no evidence exists to suggest that the level of funding should be 100 percent, 75 percent, 50 percent, or any other fixed percentage. Many (e.g., Leslie and Brinkman, 1988; Fairweather, 1990) argue that early identification and remediation programs in junior high schools are at least as important to educational achievement among disadvantaged youth as the expectation that future college costs will be paid for them.

**Price Controls and Purchase Reviews**

State government could also regulate tuition levels or rates of tuition increase at higher education institutions. During 1989-90, for example, Virginia Governor Douglas Wilder and the Virginia General Assembly restricted the ability of some public institutions in that state to raise tuitions beyond a certain level, thus forcing those institutions to revise their budgets. In general, state price control measures would share many attributes of similar Federal price controls, which are discussed in further detail below.

## Policy Options for the Federal Government

Even though the primary responsibility for college and university operations lies within specific states or institutions, the overall goals of higher education -- such as economic competitiveness, well-educated citizens, and equal opportunity -- are issues of national concern as well. Moreover, because the American higher education system is so diverse, the Federal government is one of few entities that is in a position to shape higher education generally.

The Federal government's direct involvement in higher education takes two principal forms. First, the Federal government is the chief external source of research and development funds for colleges and universities. Second, as noted in Chapter II, the Federal government is also the principal provider of student financial assistance. Federal financial aid enhances access to higher education and promotes student choice among institutions.

**Changes in Federal Financial Aid Programs**

Better Targeting of Aid

Most Federal aid is targeted to provide students with the greatest need the largest amounts of financial assistance. However, the targeting of Federal aid could be improved in several ways:

- Pell grants could be focused more on lower-income students. Recent reauthorizations have expanded eligibility such that more middle-income families may receive Pell funding. For example, a family of four with one child in college and an income below $33,000 is currently eligible for a Pell grant. Families with two children in college are eligible if their income is below $41,000. Furthermore, under the current award formulas, when the maximum award increases, the maximum eligible family income automatically rises. If changes were made to restrict eligibility for students with higher incomes, then larger grants could be given to the most needy students.

- Campus-based aid is given to institutions, which then determine who among their eligible students will receive aid and in what amounts. In certain cases, institutions will use their discretion to award Campus-based aid to those students who possess characteristics desirable to the school (Sherman and Cohen, 1990b). These students may not necessarily be the most needy. Using Federal appropriations to the campus-based programs to increase Pell awards would better focus aid on needy students. However, such a change would reduce institutions' flexibility.

- In the 1980s, proprietary school students have received an increasing share of Federal student aid. Some have suggested restricting the eligibility of these students so that more money is available to finance higher education for students enrolled in two- and four-year colleges and universities. Others, however, argue against such restrictions, asserting that the most needy students would be adversely affected.

**Increased Reliance on Loans**

Another way to reduce higher education costs to the Federal government is to change the type of aid disbursed. Federal loans "cost" the government less than grants because they are generally repaid, albeit often at less than market rates. By leveraging funds in this way, more aid is made available even though the loans are still highly subsidized. The relative tradeoffs between loans and grants in terms of costs, on the one hand, and access, choice, and persistence on the other hand, has not been adequately evaluated. Whether loans or grants "buy" more for each dollar expended is an empirical question that has not yet been satisfactorily answered. Of course, reduction in the total amount of aid disbursed (which the Federal government has refrained from doing) would reduce costs to the Federal government even further but would significantly increase costs and reduce choice for many students and families who rely on Federal financial assistance.

In the absence of Federal aid, many students may not be able to attend the institution of their choice and some may not be able to pursue higher education at all.

**Alternative Federal Loan Programs**

The Federal government can also reduce its costs by offering loans that are less costly to provide. For example, the Department of Education could rely more on loan programs that charge interest rates that are more comparable to those prevailing in the market and which accrue interest while the student is in school. The PLUS loans (for parents) and SLS loans to students are existing examples of such programs. The advantage of these loans is that they are less costly for the Federal government. However, to the extent that such loans are used by lower-income students to meet unfulfilled need, the tradeoff is that more costs of attending college shift to students and debt burden is increased considerably.

**Federal Assured Access Programs**

Some have suggested that full Federal funding of college costs for disadvantaged youth would be the best way to motivate and guarantee college access for those least able to afford it. If implemented, such a program would be costly to the Federal government but would reduce economic barriers to higher education for student recipients and their families. This type of Federal assured access program shares many of the characteristics of New York's Liberty Scholarship Program, discussed above. Moreover, because tuitions vary so widely among institutions, a Federal plan that guarantees student recipients free choice among institutions might result in very different costs to the Federal government for each student participating in the program. Such a program might also encourage institutions to raise tuitions.

**Federal Savings Plans**

Another proposal is that the Federal government establish programs that encourage parents to save for their children's education, as has been done in many states (Hartle, 1988).

Currently, the Federal government provides college savings bonds, individuals forego taxes on these bonds when they are redeemed to pay for college for an individual or his/her children. Other proposals might include variations on Individual Retirement Accounts, tax credits, and the like. A Federal savings program would be subject to many of the same limitations as the state government savings plans. That is, depending on the form they take, Federal savings plans may or may not prove more effective than other forms of investment in saving for college. As with the various state plans, the greatest savings will be achieved if Federal incentives encourage families to save for future college costs when they otherwise would not have contributed any funds toward their children's future education.

**Price Controls**

One way in which the Federal government could control the costs borne by students and their families would be to establish price controls that directly limited the rate of increase in tuition or other prices that colleges and universities charge students. Such controls could, for example, require that institutions raise their tuitions by no more than some fixed percentage. This type of policy would reduce tuition growth and possibly give an incentive to institutions to cut their expenditures.

However, there are several problems with this approach. First, tuition increases serve in part to promote the mission of higher education, including the provision of quality through a diverse range of program offerings. By limiting tuition revenues, price controls could lead to cutbacks in academic programs or student services at college and university campuses.

Another unintended consequence of price controls could be a reduction in institutional aid. Faced with the governmental constraints on tuition growth, schools could avoid cutting academic and other programs by reducing their own financial aid budgets. They could do this by offering less aid to students with financial need or making fewer offers of admission to students

who require financial aid. An outcome of price regulation might therefore be to make college less accessible to students with financial need.

Price controls might also inadvertently give schools an incentive to raise prices in areas not subject to price controls. For example, institutions could raise additional revenue by raising graduate tuitions or by raising the price of student health services to compensate for foregone tuition revenues from undergraduates.

To prevent some of these adverse effects of price regulation, the Federal government could in theory carefully monitor the myriad pricing and expenditure decisions that institutions make. A serious question that arises from such a proposal, though, is whether the costs of administering a program would exceed any cost savings from the program. Such a program would require development and maintenance of a complex mechanism to regulate higher education, an industry in which more than $100 billion is spent annually. In addition, price controls would directly involve the Federal government with institutions' pricing and purchasing decisions. Such a move would threaten institutional autonomy, a central value in American higher education, and is also of questionable legality.

**Purchase Review**

A less drastic alternative to price controls in higher education might entail government review of purchases that institutions make. Such an approach could be similar to the health planning programs that the Federal government encouraged in the 1970s to monitor hospitals' decisions to purchase equipment and provide services to prevent "duplication and excess supply of certain health services and facilities" [42 U.S.C. Section 300k-2(b)(1)-(3), 1982]. Such controls could be similarly applied to higher education, an industry in which the competition to attract students may be in part drive the provision of "unnecessary" services and facilities.

Although purchase reviews are less restrictive than direct price controls, many of the same objections may be mounted against them. Like price controls, purchase reviews encourage misallocation of resources as institutions have an incentive to circumvent regulation by making expenditures outside of the services or facilities regulated by the program.[12] Such regulation also requires the establishment of a regulatory agency, which (like a price control agency) would require the Federal government to become involved with the choices made by public and private institutions. In addition, there is no real precedent, legal or otherwise, for such direct Federal involvement in the decisions of private or state institutions.

**Institutional Restrictions on Federal Financial Aid**

An alternative to Federal price controls or purchasing reviews would be to restrict the award of Federal financial aid to students at institutions which had tuition increases that exceeded some specified amount or percentage. This option would reduce the indirect Federal assistance that institutions obtain through the Federal financial aid offered to students. Such a reduction would presumably have the greatest effect at expensive private schools and proprietary schools where the largest fraction of students receive Federal aid. Presumably the loss of this revenue source would give schools an incentive to keep tuitions down in order to retain this assistance.

There are several problems with this approach, however. One is that it would give institutions an incentive to admit fewer applicants who need Federal assistance. If schools admitted fewer students with financial need, these students would likely move to less-expensive public schools. The burden of assisting these students would simply shift from the Federal government to state and local governments that subsidize the operation of public schools.

---

[12] The general consensus of studies of health planning legislation is that it either had no effect or tended to raise hospital costs (Sherman, 1988).

Another problem with this approach, at least at expensive private schools, is that Federal financial aid is not a major source of revenue for these schools (Bradburd *et al.*, 1990). Many expensive private schools are selective, that is they have more applicants than they accept. In the face of cutbacks in Federal financial aid, these schools could accept fewer students with need and still maintain their enrollments. Given their selectivity, these schools could further raise their tuition to generate more revenue for institutional aid that could then be given to students who would otherwise receive Federal financial aid. Such an outcome would serve to shift costs from the Federal government to those students who are willing and able to pay higher costs to attend certain institutions.

## Conclusion

The issue of rapidly rising higher education costs is both a concern and a responsibility of diverse parties. Students, their families, higher education institutions, and local, state, and Federal governments all have vital interests in maintaining high-quality, affordable education. However, their precise interests in higher education vary, and each party contributes to the cost of providing it in a different way.

At each level, changes have been proposed -- and many implemented -- to restrain further escalation in higher education costs. However, most of these policy options come with tradeoffs attached: costs are either transferred from one party to another, shifted from the present to the future, or reduced at the price of some other aspect of American higher education, such as choice or quality. Reducing costs is thus far more complex than simply cutting institutional expenditures. Any efforts to cut costs must consider the diversity of American higher education, the tradeoffs which occur when costs are reduced, and the fact that Americans have high expectations for their colleges and universities.

# CHAPTER VII

# CONCLUSIONS

Within the United States, education is commonly perceived as a key to success for both the individual and society. This belief applies not only to elementary and secondary schools, but also to colleges and universities. The United States is proud that it is home to many of the world's premiere higher education institutions and that a larger portion of secondary school graduates (over half) in this nation proceed to higher education than in any other country.

However, many now claim that the affordability of college is in jeopardy due to the rising costs of higher education. This concern has been voiced by many different groups, among them current and prospective students, their families, policymakers, and others who view educational opportunity as a vital element of American society. Of particular concern is the feasibility of continued access to and choice among higher education opportunities for a large proportion of the population, drawn from all communities and socioeconomic backgrounds.

In response to the public outcry over escalating higher education costs, Congress requested the Department of Education to study this issue. As the final report of the Department's study, this volume addresses the issues noted in the mandate: why the cost of attending college has increased, how these changes have affected institutions and families, what higher education might cost in the future, and what might be done to limit the costs of providing or obtaining higher education. These issues are at the heart of the operations and role of colleges and universities in the United States today. Yet for each general response to these questions, there is at least one qualification. A few of the principal findings are as follows:

- Throughout the 1980s, the average higher education tuition grew considerably faster than inflation. **However**, tuition grew faster among private institutions than public institutions, and faster at four-year colleges and universities than at two-year colleges.

- During the same period, student financial aid -- particularly aid provided by colleges and universities themselves -- also increased. **However**, since total financial aid grew more slowly than tuition, the "net price" of a college education (educational costs less financial aid) rose for most students.

- Faculty compensation costs, administrative expenses, equipment purchases, and shortfalls from other revenue sources are some of the factors that have contributed to increased college costs. **However**, the relative importance of each of these factors varies tremendously among institutions. Research universities appear to have been particularly hard hit by equipment costs, for example, and tuitions at public institutions in almost all cases are strongly tied to fluctuations in state appropriations.

- Increases in the cost to institutions of providing a higher education did lead to increases in tuition in the 1980s. **However**, the converse argument is also true -- institutions' ability to raise tuition provided them with extra funds with which to purchase goods and services.

- If the most recent trends continue, college costs will not increase as fast in the future as they did in the early 1980s. **However**, an economic recession could reduce state and Federal support for higher education, which could result in steeper tuition increases (particularly at public institutions in hard-hit states) and fewer financial aid dollars.

- A number of policy options aimed at restraining college costs have been proposed, and some implemented, at the state and Federal government levels, as well as at the institutional level. **However**, most of these policy options come with tradeoffs attached; costs are either transferred from party to another, shifted from the present to the future or from one generation to another, or reduced at the price of some other aspect of American higher education, such as quality or choice.

The qualifications noted above illustrate the diversity of higher education in the United States and suggest the dangers inherent in broad generalizations. Institutions vary by many characteristics, including size, location, mission, student population, and tuition. Since the circumstances of one college or university many not hold true for other institutions, tuition levels and trends are not consistent across all institutions.

It is true that tuitions at some institutions exceed $10,000 and have increased dramatically in real terms and relative to median family income. However, these institutions enroll a very small portion of all undergraduates. Among public institutions, which enroll approximately 80 percent of all undergraduates, tuitions are considerably lower (since they are subsidized by state

appropriations), have risen more slowly, and have remained a fairly stable share of median family income over the past two decades. Even among institutions that charge similar tuitions, there are usually many differences.

Tuition levels and other higher education costs are not determined exclusively by colleges and universities. Tuition levels are also shaped by each of the other parties that help provide higher education in this country, including state and local governments, the Federal government, students and their families, and other individuals and organizations that support higher education. The relative importance of each party may vary, but actions taken by any one of these players can, and almost inevitably do, affect those of others, particularly when those actions entail reducing a financial contribution. Thus, while costs can be shifted, absolute cost reduction is difficult to achieve without cutting higher education programs and services or abandoning goals of quality or access.

To avoid sacrificing quality in the face of rising costs and sparse resources, some institutions have re-evaluated their niche in American higher education and streamlined their administration and academic programs accordingly. Institutions have also tried to generate additional revenues to maintain and improve quality. One way for institutions to generate this additional income is to raise tuitions. Results from the econometric model presented in Chapter IV suggest that tuition increases did fuel expenditure growth in the 1980s.

Clearly, the ability of institutions to charge higher prices without losing enrollment depends largely on the willingness of students and their families to pay higher tuitions. The fact that both tuitions and "net price" have increased at many institutions without prompting enrollment declines suggests that demand for higher education may have risen or that this demand is relatively insensitive to price changes. Several pieces of information noted in this report help explain the strong demand for higher education:

- Economic returns to obtaining a college degree increased in the 1980s.
- A recent study on price and quality in higher education reports that higher tuitions generally reflect higher quality (Gilmore, 1990).
- Polls reveal that people believe a college education is worth at least as much as it costs.
- In a recent survey, institutional financial officers felt that increases in tuitions would have little effect on the number of students applying for admission to their institutions. Two-thirds said that if their institution had implemented a five percent increase in tuition over and above any increase actually implemented for the year, there would be less than a two percent effect on the number of applications received. Financial officials from institutions with annual tuitions over $5,000 were more likely to expect a reduction in applications to result from raising tuitions.

Like other characteristics of colleges and universities, demand is not the same across all institution types. Most institutions are not completely free to raise tuition levels without suffering some enrollment declines, at least in the short term. At some institutions, state legislation or institutional policy effectively restrains tuition growth.

However, other institutions, most prominently a group of prestigious liberal arts colleges and research universities, consistently deny admission to large portions of their applicant pools. Due to this excess demand, these institutions may be able to raise tuition, and hence revenue, without suffering declines in enrollment. In fact, it is quite possible that these institutions could raise tuitions far more than they have without suffering enrollment losses. Some have theorized that higher tuitions may actually generate more demand, rather than diminish it. This could occur if individuals believe that the quality of education provided at an institution has improved as a result of increased tuitions, or if they believe that price signals quality or prestige.

We hope that readers, whatever their background, find this report informative. However, we realize that this volume does not represent the final word on college costs, nor should it. Like

many other investigations, this study has spawned a new set of questions that merit serious attention. These include:

- What are higher tuitions buying? Are any resulting improvements worth the increased cost? These questions consider changes in tuition levels in light of the impact such changes may have on the quality of education students receive.
- How much further can tuitions rise before people refuse to pay them, or before selective schools are forced to become less selective to fill their seats? Is there a point beyond which those students and families paying the full tuition amount will balk at subsidizing the tuitions of those who do receive institutional financial aid?
- Have tuition increases affected students' attendance decisions: whether they attend, where they attend, what they study, and how long it takes them to complete their educational programs?

Addressing these issues, however, will require significant improvements in the availability, quality, and timeliness of data on college costs. In particular, data are required on the outcomes of higher education and how they are related to institutional expenditures.

The current climate of economic uncertainty makes it nearly impossible to predict how affordable higher education will be in the future. Even if accurate projections of future tuition costs could be devised, these must be compared to family incomes, the availability of financial assistance, and many other factors. What we do know is that education is as important now as it ever has been -- both to individuals and to the nation. Continued attention to higher education issues is critical to establishing national priorities for maintaining and improving a strong tradition of higher education in the United States.

## REFERENCES


American Association of University Professors. (Summer, 1976). The Annual Report on the Economic Status of the Profession, 1975-76. Academe, 62.

_____. (March-April, 1988). The Annual Report on the Economic Status of the Profession, 1975-76. Academe, 74.

Association of Physical Plant Administrators of Universities and Colleges (APPA) and the National Association of College and University Business Officers. (1989). The Decaying American Campus: A Ticking Time Bomb. Alexandria, VA: APPA.

Barrett, P. (August 13, 1986). College Tuition-Financing Deals Attract Parents and Many Critics. The Wall Street Journal.

Barrett, P. and Chipello, C. (August 10, 1989). U.S. Investigates Prestigious Universities, Colleges for Possible Antitrust Violations. The Wall Street Journal.

Baum, S. (1990). The Need for College Savings. In College Savings Plans: Public Policy Choices, edited by J. Hansen, pp. 7-17. New York: College Board.

Berger, J. (March 23, 1988). College Officials Defend Sharply Rising Tuition. The New York Times.

Bowen, H. (1980). The Costs of Higher Education: How Much Do Colleges and Universities Spend per Student and How Much Should They Spend? San Francisco: Jossey-Bass.

Bowen, H., and Schuster, J. (1986). American Professors: A National Resource Imperiled. New York: Oxford University Press.

Bowen, W. and Sosa, J. (1989). Prospects for Faculty in the Arts & Sciences. Princeton, NJ: Princeton University Press.

Bradburd, R., and Mann, D. (1990). The Market for Higher Education: An Economic Analysis. Washington, DC: Pelavin Associates.

Bradburd, R., Mann, D., McPherson, M., and Schapiro, M. (1990a). The Ability to Afford Higher Education: Past, Present, and Future. Washington, DC: Pelavin Associates.

_____. (1990b). Understanding the "Quality" Issue in U.S. Higher Education. Washington, DC: Pelavin Associates.

Brinkman, P. (1988). The Cost of Providing Higher Education: A Conceptual Overview. Denver: State Higher Education Executive Officers.

## REFERENCES (Continued)


Cage, Mary Crystal. (July 12, 1989). As Budgets Get Tighter, More States Are Reviewing College Programs in Hope of Curbing Duplication. Chronicle of Higher Education.

Cartter, A.M. (1976). Ph.D.'s and the Academic Labor Market. New York: McGraw-Hill.

Chaney, B., and Farris, E. (1990). The Finances of Higher Education Institutions. Rockville, MD: WESTAT.

Chira, S. (July 8, 1990). How Stanford, Wealthy and Wise, Is Cutting Costs to Stay that Way. The New York Times.

College Board. (1989). College Board Survey Shows College Students Will Pay an Average of 5 to 9 Percent More for Tuition and Fees in 1989-90. New York: The College Board.

_____. (various years). The College Handbook. New York: The College Board

_____. (1990). College Board Survey Shows College Students Are Paying an Average of 5 to 8 Percent More for Tuition and Fees This Year. New York: The College Board.

_____. (1989). Trends in Student Aid: 1980 to 1989. Washington, DC: The College Board.

Congressional Budget Office. (1988). Trends in College Tuition and Student Aid Since 1970. Washington, DC: Congressional Budget Office, Staff Working Papers.

Cooper, K. (May 20, 1990). Citing Rising Student Aid Costs, Private Colleges Change Enrollment Policies. The Washington Post.

Council for Advancement and Support of Education (CASE). (1987). Tuition: The Story and How to Tell It. A CASE Senior Seminar Report, Brown University.

_____. (1988). Survey on Participation in Higher Education Among Young People 13-21 Years of Age. Washington, D.C.

Council for Advancement and Support of Education (CASE) and the National Association of College and University Business Officers (NACUBO). (1990). Expenditures in Fund Raising, Alumni Relations, and other Constituent (Public) Relations. Washington, D.C.

Council for Aid to Education. (1990). Voluntary Support of Education, 1988 -1989 . New York: Council for Aid to Education.

Curry, D. (1988a). Financing the Student Costs of Higher Education: Considerations for Effective Access. Denver: Education Commission of the States.

## REFERENCES (Continued)


Dodge, S. (October 11, 1989). Overlap Group Makes Aid Process Fairer, Targets of Inquiry Argue. The Chronicle of Higher Education.

Fairweather, J. (1988). Entrepreneurship and Higher Education: Lessons for Colleges, Universities, and Industry. ASHE-ERIC Higher Education Report No. 6. Washington, DC: Association for the Study of Higher Education.

_____. (July/August 1989). Academic Research and Instruction: The Industrial Connection. Journal of Higher Education, 60: 388-407.

_____. (1990). Postsecondary Financial Assistance Programs for Disadvantaged and Minority Youth: Alternatives for the State of Pennsylvania. University Park, PA: Center for the Study of Higher Education, Penn State University.

Fischer, F. (January/February 1990). State Financing of Higher Education: A New Look at an Old Problem. Change, 22: 42-56.

Fiske, E. (May 14, 1987). How Tuition Costs Are Set: An Education in Itself. New York Times.

Frances, C. (1990). What Factors Affect College Tuition?: A Guide to the Facts and Issues. Washington, DC: American Association of State Colleges and Universities.

Freeman, R.B. (1976). The Overeducated American. New York: Academic Press.

Gilmore, J. (1990). Price and Quality in Higher Education. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

Goldstein, A. (June 29, 1990). University of Maryland Begins Layoffs in Administration. The Washington Post.

Greenberg, M. (Spring 1988). What Happened to College Tuitions and Why: A View from a Public University. College Board Review, 147: 13-15, 29-33.

Hansen, W.L. and Guidugli, T. (March/April 1990). Comparing Salary and Employment Gains for Higher Education Administrators and Faculty Members. Journal of Higher Education, 61: 142-159.

Hartle, T. (1986). The Rising Cost of College: The Conventional Wisdom Is More Complicated Than You Think. Washington, DC: American Enterprise Institute.

Hartle, T. (1988). The Evolution of Higher Education Financing Alternatives. Paper presented at the Brookings Institute Conference on Changing Roles and Responsibilities in Financing Higher Education, Washington, DC.

## REFERENCES (Continued)


Hauptman, A. (December 3, 1986). The Tuition-futures Fad: The Risks Outweigh the Benefits for Families, Colleges, and States. Chronicle of Higher Education.

_____. (1989). Why Are College Charges Rising? The College Board Review, 148, pp. 11-17.

_____. (1990a). The College Tuition Spiral. Washington, DC: American Council on Education and the College Board.

_____. (1990b). The Tuition Dilemma. Washington, DC: Brookings Institution.

Helpern, D. (September 15, 1987). Prepared statement of the witness before the U.S. House of Representatives, Subcommittee on Postsecondary Education, Hearings on Higher Education Costs.

Holden, K. and Hansen, W.L., (Spring 1989). The End of Mandatory Retirement: Effects on Higher Education. San Francisco: Jossey-Bass.

Iosue, R. (1988). College -- The High Cost of Declining Productivity. Academic Questions, 1: 41-51.

James, E.; Alsalam, B.; Conaty, J.; and To, D. (1990). College Quality and Future Earnings: Where Should You Send Your Child to College? American Economic Review, 79: 247-252.

Jaschik, S. (October 11, 1989). U.S. Investigation of Colleges Is Seen as Unusually Broad. Chronicle of Higher Education.

Karelis, C. (March/April 1989). Price as a Lever for Reform. Change, 21: 21-28.

Karelis, C. and Sabot, R. (January/February 1987). Financing Higher Education: A Proposal for Reform. Liberal Education, 73: 40-42.

Kaspar, H. (March/April 1989). High Education Goals: Low Salary Increases. Academe, 75: 3-7.

Katz, L. and Murphy, K. (1990). Changes in Relative Wages, 1963-1987: Supply and Demand Factors. mimeo.

Keller, G. (1983). Academic Strategy: The Management Revolution in American Higher Education. Baltimore: Johns Hopkins University Press.

## REFERENCES (Continued)


Kingston, W. and Lewis, L. (1990). The High-Status Track: Studies of Elite Schools and Stratification. Albany: State University of New York Press.

Kirshstein, R. and Cohen, J. (1990). Paying for College: The Role of Financial Aid and Family Resources in Meeting the Costs of Undergraduate Education. Washington, DC: Pelavin Associates.

Kirshstein, R. and Fairweather, J. (1990). Faculty Utilization. Washington, DC: Pelavin Associates.

Kirshstein, R., Tikoff, V., Masten, C., and St. John, E. (1990). Trends in Institutional Costs. Washington, DC: Pelavin Associates.

Layzell, D. (Summer/Fall 1988). Pay Now, Pay Later. Educational Record, 69: 14-19.

Lederman, M.; Ryzewic, S.; and Ribaudo, M. (1983). Assessment and Improvement of Academic Skills of Entering Freshmen Students: A National Survey. New York: City University of New York, Instructional Resource Center.

Lemke, D. (1989). Holding Down Costs at Academic Research Libraries: A Consortial Approach. Lanham, MD: The Washington Research Library Consortium.

Leslie, L. and Brinkman, P. (1988). The Economic Value of Higher Education. New York: American Council on Education/MacMillan.

Litten, L.H. and Hall, A.E. (1989). In the Eyes of the Beholders: Some Evidence on How High School Students and Their Parents View Quality in College. Journal of Higher Education, 60: 302-324.

McGuinness, A., Jr. (December 1988). Alternatives for the Future Funding of Higher Education: The Role of the States. Brookings Institution Conference on Changing Roles and Responsibilities in Financing Higher Education, Washington, DC.

McGuinness, A., Jr. and Paulson, C. (1990). A Survey of College Prepayment and Savings Plans in the States. In College Savings Plans: Public Policy Choices, edited by J. Hansen, pp. 44-72. Washington, DC: The College Board.

McMillen, L. (January 27, 1988). On Many Campuses, 'Strategic Planning' Leads to Streamlined Programs and New Images. Chronicle of Higher Education.

_____. (August 16, 1989). Escalating Costs Force Private Research Universities to Scale Back Academic, Administrative Operations. Chronicle of Higher Education.

## REFERENCES (Continued)


McPherson, M. and Schapiro, M. (forthcoming). Measuring the Effects of Federal Student Aid: An Assessment of Some Methodological and Empirical Problems, Washington, DC: Pelavin Associates.

McPherson, M. and Skinner, M. (Fall 1986). Pay for College: A Lifetime Proposition. Brookings Review Journal, 29-36.

Manski, C. and Wise, D. (1983). College Choice in America. Cambridge, MA: Harvard University Press.

Martin, D. (1988). Understanding the Costs of College. Phi Delta Kappan.

Masten, C. (1990). Econometric Modelling of Tuition and Expenditures in Higher Education. Washington, DC: Pelavin Associates.

Mortenson, T. (1988). Attitudes of Americans Toward Borrowing to Finance Educational Expenses, 1959-1983. Iowa City: The American College Testing Program.

_____. (1990a). The Impact of Increased Loan Utilization Among Low Family Income Students. Iowa City: The American College Testing Program.

_____. (1990b). The Reallocation of Financial Aid From Poor to Middle Income and Affluent Students. Iowa City: The American College Testing Program.

National Association of Independent Colleges and Universities (NAICU). (1989). Independent Colleges and Universities: A National Profile. Washington, DC: NAICU.

National Institute of Independent Colleges and Universities (NIICU). (1990). A Commitment to Access. Washington, DC: NIICU.

Putka, G. (May 2, 1989). Do Colleges Collude on Financial Aid? The Wall Street Journal.

_____. (October 10, 1989). Tuition Trauma. The Wall Street Journal.

Research Associates of Washington. (1989). Higher Education Price Indexes: 1989 Update. Washington, DC.

Russell, S. *et al.* (1989). National Survey of Postsecondary Faculty. Menlo Park, CA: SRI International.

Schenet, M. (1988). College Costs: Analysis of Trends in Costs and Sources of Support. Washington, DC: Congressional Research Service.

## REFERENCES (Continued)


Sherman, D. (1988). The Effects of Certificate-of-Need Laws on Hospital Costs: An Economic Policy Analysis. Washington, DC: Federal Trade Commission.

Sherman, D. and Cohen, J. (1990a). Expensive Private Institutions. Washington, DC: Pelavin Associates.

_____. (1990b). The Distribution of Discretionary Financial Aid. Washington, DC: Pelavin Associates.

Sherman, D., Tikoff, V., and Masten, C. (1990). Issues in Public Higher Education. Washington, DC: Pelavin Associates.

Streitfeld, D. (1988). College Tuition Up, Up, and Away. The Washington Post.

Sykes, C. (1988). ProfScam. New York: St. Martin's Press.

Thrift, J. (September 15, 1987). Prepared statement of the witness before the U.S. House of Representatives, Subcommittee on Postsecondary Education, Hearings on Higher Education Costs.

U.S. Department of Education. (1985). Many College Freshmen Take Remedial Courses. In Bulletin. Washington, DC: U.S. Government Printing Office.

_____. (1988). Undergraduate Financing of Postsecondary Education: A Report of the National Postsecondary Student Aid Study. Washington, DC: U.S. Government Printing Office.

_____. (1989). Digest of Education Statistics. Washington, DC: U.S. Government Printing Office.

_____. (1989). Projections of Education Statistics to 2000. Washington, DC: U.S. Government Printing Office.

_____. (1990). The Condition of Education 1990, Volume 2. Washington, DC: U.S. Government Printing Office.

_____. (1990). Faculty in Higher Education Institutions, 1988. Washington, DC: U.S. Government Printing Office.

_____. (1990). Tough Choices: A Guide to Administrative Cost Management in Colleges and Universities. Washington, DC: U.S. Government Printing Office.

## REFERENCES (Continued)

U.S. General Accounting Office. (1990). Gaps in Parents' and Students' Knowledge of School Costs and Federal Aid. Washington, DC: U.S. Government Printing Office.

Vobejda, B. (May 3, 1989). Relative Value of a College Degree Soared in 1980s. The Washington Post.

_____. (August 9, 1989). Antitrust Division Probing Top Colleges' Tuition and Aid. The Washington Post.

_____. (August 10, 1989). Price of a College Education Continues to Outpace Inflation. The Washington Post.